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Glass and British Pharmacy 1600-1900

The Wellcome Institute of the History of Medicine



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MUSEUM CATALOGUE II

Glass and British Pharmacy 1600-1900

Glass and British Pharmacy

1600-1900

A Survey, and Guide to the
Wellcome Collection of British Glass

J. K. Crellin and J. R. Scott

London

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Foreword

The important pharmaceutical collections in the Museum of the Wellcome Institute of the History of Medicine are being systematically studied and catalogued by Dr J. K. Crellin, who has already produced a catalogue of the Medical Ceramics (English and Dutch collections) which was published by the Institute in 1969. In addition, he has written (with the collaboration of J. R. Scott) a series of substantial papers under the general title 'Pharmaceutical history and its sources in the Wellcome Collections' which have been published in the quarterly journal *Medical History* at intervals since 1967.

The present study is the first attempt to describe the wide range of British pharmaceutical glassware which has been in use at some time within the period 1600-1900. The background of the medical and pharmaceutical scene is briefly discussed, for the rivalries between apothecaries and chemists and druggists had some bearing on the character of individual pharmacies. General changes in shop design, which had a marked effect on window displays, are also considered.

The illustrated Catalogue of the Wellcome Collection, based on a study of over 1200 pieces, serves to illustrate many of the points made in the general survey. Those who may wish to make a closer study of the individual pieces may do so in the Museum.

F. N. L. Poynter
Director

Wellcome Institute of the
History of Medicine

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(PRICE & CO)
 (Chemists and Druggists,)
 N^os 1 & 2,
 (GREAT RUSSELL STREET, COVENT GARDEN.)

*Physicians' Prescriptions and Family Recipes accurately prepared
 . Medical Advice by Gentlemen of long experience in various
 climates, in every Department of the Profession .*

Figure 1: Trade card of Price & Co, Chemists and Druggists of Great Russell Street, Covent Garden. A dated copy in the library of the Pharmaceutical Society of Great Britain, indicates a date of 1809.

The attractiveness and elegance of many Continental pharmacies of the 17th and 18th centuries can be seen from a host of illustrations¹. Unfortunately, there is not the same documentation for English pharmacies, though it is commonly thought that they were just as elegant because of the well known 'blue and white' tin-glazed pharmacy jars that have survived. However, such pottery jars were by no means the only containers in use, and in fact may not have featured in every shop².

There is no doubt, as early inventories show, that drawers, boxes and glass vessels were widely employed for storage in the 16th-17th centuries. For instance, in 1591, Thomas Baskerville's shop in Exeter had many gallon, pottle and quart glasses³. Some of these were probably used for distilled waters, as 'glasses for waters' and 'water glasses' are occasionally listed⁴. It is of interest that the physician Robert Pitt in his *Antidote* (a critical attack on apothecaries published in 1704) remarked that, while there had been a marked reduction in the number of distilled waters in use during the previous few decades (from around 150 to ten or fifteen), 'the glasses remain to affect [the] eye and imagination'⁵. The general use of pharmacy glassware in the early 18th century is further suggested by Daniel Defoe's statement of 1727 that 'fine flint glass [including] apothecaries and chymists glass phials, retorts, &c. [are made at] London, Bristol, Sturbridge, Nottingham, Sheffield [and] Newcastle'⁶; also, in 1725, over 200 glass containers were bought for the new apothecary shop at Guy's Hospital (see appendix), there being no evidence of a similar purchase of pottery ware⁷.

Despite the general use of glass containers, surviving English examples generally do not match those from the Continent in elegance of decoration or of design, though this may be due to the small amount of remaining 17th- to 18th-century English material. Some that does remain is first-class of its type, which is not altogether surprising

as even the economy-minded Guy's Hospital was buying special flint pill and extract glasses etc in 1725. There is also evidence of growing numbers of elegant premises in the 17th century, at least in London. For example, in 1670 it was said that 'it is little wonder [that] so many young apothecaries set up . . . anew, and open shops in every corner almost of the City [of London] . . . for it requires no great sum to purchase *fine painted and gilded pots, boxes and glasses*, and a little stock is improveable to a manifold proportion of what it is capable of in other trades'⁸. Another comment stated that the apothecary should spare the patient the 'charges of leaf-gold for gilding pots, glasses, pills, electuaries, boles, &c., which serves only to raise the bill'⁹.

Apothecaries, and Chemists and Druggists

Nevertheless, it is difficult to say how general this elegant décor was, especially outside London, not only because of the dearth of illustrations, but also because of the disparity among owners.

Many were apothecaries who, from the 17th century onwards, gradually developed into general medical practitioners, a movement completed in the first half of the 19th century. Other premises were owned by 'chemists and druggists', a wide spectrum of practitioners evolving from three main groups, namely apothecaries, manufacturers of chemical remedies (cf p62) and wholesale druggists. The apothecaries were those who chose to continue mainly or wholly in the practice of pharmacy rather than in medicine. They diminished as the 18th century progressed, even being actively discouraged by the London Society of Apothecaries when 'trading' apothecaries were no longer allowed to become liverymen of the Society after 1774¹⁰. Sixty years later, in 1834, the Master of the Society remarked that perhaps only half a dozen apothecaries were 'practising [pharmacy] exclusively'¹¹.

Large numbers of chemists and druggists arose



Figure 2: Two pages from manuscript 'Fracture' book, compiled by Jacob Bell during his apprenticeship at the celebrated establishment of his father, John Bell. John Bell's shop, with its large manufacturing laboratory, was a training ground for a large number of first-class

chemists and druggists. The illustration (from ms 356, and reproduced by courtesy of the Pharmaceutical Society of Great Britain) shows some of Jacob's breakages during his apprenticeship, many items being glass bottles.

independently of apothecaries following the increasing emphasis on medical chemistry in the 16th century. As early as 1571 George Baker listed the London preparers of chemical medicines whose integrity could be relied upon:

one mayster Kemech an Englishe man dwelling in Lothburie, another, mayster Geffray, A French man dwelling in Crouched Friers, men of singular knowledge that waye, another named John Hester dwelling on Powles Wharfe, the which is a paynfull travaylor in these matters, as I by prooffe have seene, and used to the furtherance of my pacients healthes, and also one, Thomas Hyll, who for his excellent knowledge in this arte, is not to be left out¹².

Comparatively little is known of these 16th-century chemists, except for Hester. He was active as a London distiller no later than the early 1570s and became a leader in popularising the new chemical medicine¹³. The role of distillers in the preparation of 'chemical' remedies (eg cordials)

is not unimportant because distilled waters and cordials were popular, and there were certainly conflicts between distillers and apothecaries¹⁴. However, the precise influence of distillers needs detailed study, there being no evidence, for instance, that prominent 17th- to 18th-century chemists, like George Wilson and Ambrose Godfrey, were involved with the distilling trade¹⁵.

Chemists had become a formidable group during the first half of the 18th century, as is clearly seen from a host of criticisms against them. For instance, in 1746, the physician D. W. Linden commented that owing to the low prices introduced by chemists to attract customers there was little chance for those who wished to market better quality preparations 'because one man's word for the genuineness of . . . preparations is no more to be taken than another's', a reflection on the limited amount of analytical control that could be undertaken successfully¹⁶.

'Druggists' – the third strand in the evolution of

chemists and druggists – arose in the 17th century through the wholesaling of drugs. They frequently developed from grocers who found it profitable to specialize in the increasingly wide range of drugs available, many being imported¹⁷. According to Harvey in 1676 some were also selling chemical preparations at the time, for ‘they buy great quantities of them from the chymists at much cheaper rates, then they will sell lesser proportions to particular persons’¹⁸.

Just when the druggists became generally involved in small-scale manufacturing and retailing drugs is difficult to say, but it was almost certainly a slow development that had become well established by the middle of the 18th century¹⁹. That druggists should have commenced retailing drugs is not surprising, for domestic medicine was practised widely, and, with an increasing population, it must have been easy to encroach on the retailing activities of apothecaries who were giving more and more attention to medical practice.

Also uncertain is just when the druggists began to dispense prescriptions regularly, for it must be remembered that throughout the period being considered the apothecary/general practitioner commonly did his own dispensing (or left it to his apprentice!), the chemist and druggist gradually taking over the filling of physicians’ prescriptions. This situation was generally well established by the early decades of the 19th century²⁰, though when the apothecaries grumbled about chemists and druggists dispensing widely for physicians in the 1790s, they may have been overstating the situation as the number of physicians was still comparatively small²¹.

A further uncertainty in the evolution of the chemist and druggist concerns the association of the two occupations (that of the ‘chemist’ with that of the ‘druggist’). This, too, must have been something of an *ad hoc* process, though a natural one. The 18th-century ‘chemist’ was generally as much concerned with producing traditional ‘galenic’ preparations as with chemical substances even though in the post-Paracelsian era ‘chemical pharmacy’ had been divided sharply from ‘galenic pharmacy’. For economic reasons the chemist had fairly wide activities, often including the sale of proprietary and other medicines²². Even so it was only in the last decades of the century that the composite term ‘chemist and druggist’ came into common use, at least in London, while those with specialist concern in chemistry (as distinct from pharmacy) came to be known as ‘operative chemists’²³.

During the 19th century, especially following the formation of the Pharmaceutical Society of Great Britain in 1841, chemists and druggists

slowly became established as the professional pharmacists of the nation, although, as mentioned, large numbers of apothecary/general practitioners continued to dispense their own prescriptions. It has to be remembered, too, that some chemists and druggists did a great deal of counter prescribing, so that the Hungarian physician J. E. Feldmann seemed confused over the distinctions between chemists and druggists and apothecaries in his diatribe (published in 1843) against English medical organisations:

When passing along the street, it is a physical impossibility to look into any apothecary’s shop, except through the open door, the window is so blocked up with the most multifarious objects. From the middle of the panes glare huge, coloured glasses, yellow, red, and blue, having inscribed upon them certain talismanic characters . . . the lower part of the window is occupied, or rather *dressed out*, as the term is, with numerous small bottles for aromatic liquids, &c., larger ones with lavender water, bottles of eau de Cologne: horse-hair gloves: syringes of every size and material: an infinite variety of soaps, and, lastly, innumerable boxes of pills . . . His Shop is, in fact, a real museum, where may be found everything, excepting what ought to be met with in a regular establishment of this description. Notwithstanding the highly decorated words over his door, of – CHEMIST AND DRUGGIST, he can scarcely be called the latter, who is, properly a drug merchant . . . There is also to be seen in almost every apothecary’s shop, a door upon which are displayed, oftentimes in several languages, the words ‘*Consultation room*’ where he receives his patients, either for giving advice, breathing a vein, extracting a tooth, &c²⁴.

Needless to say, in the light of the complex medico-pharmaceutical scene, there was much inter-professional rivalry between apothecaries and chemists and druggists, and it is pertinent to ask if their establishments reflected this rivalry, apart from commercial competition such as promoting the sale of side lines (see p10). Certainly, as will be mentioned later, many decorative containers came into prominence with the rapid 19th-century increase in numbers of chemists and druggists, and it is significant that Culverwell, around 1850, compared favourably the chemist and druggist’s shop with that of an apothecary:

A druggist’s shop with open door and a licensed tenant within, and a cheerful countenance is a standing advertisement and must necessarily facilitate consultation which [is precluded by] the closed doors, a sombre lamp, and the pageantry of being ushered in and out [of an

apothecary/general practitioner's premises]²⁵.

Unhappily, however, not all chemists and druggists' premises at this time were elegant, nor conscientiously run as may be surmised from the varied backgrounds of chemists and druggists. In 1763 Mortimer wrote that the number of chemists in London 'almost exceeds belief', whereupon he went on to list only thirty nine 'who are really artists having all regular laboratories'²⁶. Until 1868, anyone could open shop as a chemist and druggist, though an apprenticeship (plus, perhaps, some formal scientific education through attending lectures) was not an unusual preliminary.

A further difficulty in assessing the character of pharmacies up to around 1850 is that there was probably a big difference between those in London and elsewhere, as was the case with the other shops. The country establishment shown in a caricature dated 1773 – 'Matthew Manna, a Country Apothecary' (Fig 3) – is a pokey affair, with small diamond lattice windows, and must have contrasted markedly with shops in London where, by 1770, the majority had probably changed over to new shop fronts with larger panes of 12x16 inches in size, which allowed greater opportunity for display. After around 1870, as will be seen later, there is much evidence to help a general assessment of the calibre of pharmacies.

Window display

Historians have paid much attention to the bottle of coloured water placed in the window as a symbol of pharmacy, and there have been innumerable suggestions as to its origin, ranging from a blood-letting symbol to its use by 17th-century chemists to differentiate themselves from apothecaries²⁷. However, the apparent lack of 17th- to early 18th-century references to bottles of coloured water suggests that they only became popular in the 18th century, coinciding with the larger windows just mentioned.

The introduction of the larger panes was becoming common by the 1750s, and they were used, of course, by the growing number of shops (and pharmacies) that came into existence in the decades that followed, often by converting ground floors of houses. Dorothy Davis in her history of shopping has summarized the mid-century changes as follows: 'the politer trades were now beginning to take advantage of the new plate-glass for windows in place of the old ring or bottle glass. Panes of twelve inches by sixteen enabled the passer by to see into the shop and we . . . begin to hear of the ambitious shopkeepers who encroached upon the footways with bow-windows'²⁸.

Such window alterations, coupled with the competition from growing numbers of shops, en-



Figure 3: 'Matthew Manna, A Country Apothecary', by R. St G. Mansergh, published October 11th 1773. The shop contrasts with the elegant premises depicted (in the manner of Continental pharmacies, cf p1) in F. Spilsbury's 'The Family Physician', London, 1773.

couraged window displays in lines such as drapery, boots, and confectionery. On the other hand, there is no evidence that window display to promote impulse buying was done on any appreciable scale in pharmacies for some time to come (cf below), for it is probable that the small 12x16-inch window panes were soon generally decorated with specie jars and carboys, one container for each window. Many illustrations from the first 25 years of the 19th century show that this had become widespread (cf Figs 1, 4 and 5), though it does not mean, of course, that the earlier lattice windows had always been bare of decoration. An inventory of 1666 lists, suggestively, window pots (and six window boxes)²⁹, while there is the possibility that tin-glazed pharmacy jars and tiles, decorated with the arms of the Society of Apothecaries, may have featured in windows³⁰. A lattice window decorated with a show globe is also shown in Rowlandson's scene of a pharmacy, though this was drawn in the early 1790s (Fig 6).

However, with dark shop interiors and no pavements for ambling by, any such décor could have had little impact. It has also to be remembered that, up to the mid-18th century, projecting signs were the principal shop advertisements. Robert Pitt was almost certainly referring to these in



Figure 4: D. T. Egerton's scene in an apothecary's shop, the front windows being decorated with specie jars and show globes or carboys. Dated 1824. Another caricature by Egerton, entitled 'Vis a Vis' (c.1824), of a scene outside a pharmacy, shows a similar window display,

though a mortar is also shown in the window. A further caricature of the period is H. Heath's 'Physic', dated December 14th 1825, depicting displays of specie jars, show globes and syrup jars.

1704, when he said that every alley or passage had a painted pot [of an apothecary]³¹. (Chemists were probably using Boyle's head, Glauber's head, or other signs at the time³².) In London, at least, projecting signs had become such a danger and nuisance by the 1760s that they were prohibited³³. This necessitated other methods of drawing attention to the premises, and may have contributed to the growing popularity of the bottle of coloured liquid by both apothecaries and chemists and druggists, as much as did the larger windows.

a. Cylindrical specie jars

From what has been said it is clear that much glassware was available for window dressing when the new larger windows came into vogue. The use of glass vessels for displaying drugs is confirmed by a rather scurrilous remark, made in 1748, that if an apothecary purchased four ounces of good quality drug, he would keep it in a 'glass and shew his customers', but at the same time use material of inferior quality for making medicines³⁴. Such display glasses were sometimes referred to as specie glasses, which Gideon Harvey said, in 1689, 'burthen'd' apothecary shops³⁵. In the 19th century the adjective 'specie' always referred to cylindrical jars (Figs 10-19), and there is no reason

to suppose that the 17th- to 18th-century specie glasses were not of the same shape. Certainly, water-white, cylindrical jars filled with coloured liquids (average height 12 inches) appear in many illustrations of the early 19th century, and it may be that Lichtenberg meant this type when speaking, in 1775, of display glasses in apothecaries' and druggists' windows filled with gay-coloured liquids³⁶. Likewise, Göttling may have been referring to the same in 1787 (chemists' and druggists' shops having 'glasses with individually ground stoppers filled with green, blue and yellow liquids'³⁷), but, by this time, at least, 'show globes' were regular items of commerce, even being exported to America. Griffenhagen has noted that the New York *Daily Advertiser* for October 5th 1789 records 'large show globes, specie and stopper bottles' being received from Bristol³⁸.

Yet, whatever the shape (cylindrical or global) of the vessels referred to by Göttling in 1787, the ground stoppers filled with green, blue or yellow liquid indicate that the vessels were specially designed for display, although they may not then have been specifically associated with pharmacy as they undoubtedly were a few decades later (cf Fig 5). In 1786 Sophie von la Roche wrote home to Germany about 'lovely Oxford Street', brill-

iantly lit by oil lamps and lined with shops open till ten o'clock in the evening:

The spirit booths are particularly tempting, for the English are in any case fond of strong drink. Here crystal flasks of every shape and form are exhibited; each one has a light behind which makes all the different coloured spirits sparkle³⁹.

Göttling also mentions lights – he refers to Argand's burners – placed behind the liquid-filled display vessels which acted as a lens (the 'watery lights' of Walter de la Mare), and it seems that this practice was widespread until this century. In 1900 the *Chemist and Druggist* described a chemist's shop in Dover that had recently been refitted, and had behind every carboy a Welsbach gaslight⁴⁰. Innumerable formulae for the coloured liquids were published, the earliest one found being in Gray's *Supplement to the Pharmacopoeia* of 1821⁴¹.

But apart from filling water-white, cylindrical, specie jars with coloured waters (or even painting them on the outside, sometimes with symbols, or putting tin crowns around the neck (see *Figs 13, 18 and 19*)), many cylindrical jars placed in the window may well have been general purpose type used for storage, as suggested by the eighty or so containers in the windows of Price & Co (*Fig 1*). In other words, windows, before their display value became fully realised, were sometimes an extension of shop-shelving. Such general storage containers were bottle green, or, more rarely, of an amethyst or blue colour, 12 to 16 inches high, and of capacity around one gallon. Though the quality of the bottles, of which large numbers survive, is generally poor (but cf *Fig 23*), they were often made pleasing to the eye by elegant labelling and the addition of japanned lids. The use of these upright storage jars, combining utility and decoration, persisted throughout the 19th century, until they were gradually replaced by the 'Winchester quart' (see p13).

b. Carboys and show globes

The same dual purpose of utility and decoration is relevant to the majority of globe-shaped carboys. Most that survive are one gallon in capacity, and of bottle green glass, the type that Jacob Bell broke during his apprenticeship in the 1820s. He illustrated this misdemeanour in his note book 'A List of Fractures', labelling the drawing 'a green show bottle 13 × 6 1/2'⁴². Apart from elegant labelling, an overall, hand-painted decoration was sometimes applied to the green carboys (cf *Fig 36*), so that they matched the attractiveness of the rarer amethyst or blue glass carboys.

A distinctive variant is pear-shaped, the majority

that survive being of water-white glass (*Fig 41*), while the comparatively few green ones are generally of a light green glass, rather than the usual dark bottle green. Generally, they have matching stoppers (in contrast with the majority of globe-shaped carboys). When the pear-shape was introduced is uncertain, though none we have studied appears to be earlier than 1800, post-dating many of globe-shape. This suggests that the latter became generally used during the eighteenth century, while the pear-shaped style only became widespread in the 19th century, probably among the growing numbers of chemists and druggists (see below). The earliest illustration of the pear-shape that has been found is in Jacobson and Sons' catalogue of 1837⁴³.

Yet another version of the carboy was one specially designed for window decoration. This has already been referred to as the 'large show globe' listed in the New York *Daily Advertiser* advertisement of 1789⁴⁴. Probably all of this type were 12 to 18 inches high and had a foot and a globular stopper (cf *Fig 5*), a style undoubtedly common by the 1820s (*Figs 4 and 5*) serving as a forerunner for the much larger show globes to be mentioned later (p8). Some of them had stoppers filled with different coloured liquids as mentioned by Göttling in the 1780s (see above). Dickens also noted the coloured stoppers many years later: when Tom Pinch, assistant to Seth Pecksniff, went into Salisbury to meet a new apprentice he filled in time by looking at the shops which included 'chemists' shops, with their great glowing bottles (with smaller repositories of brightness in their very stoppers); and in their agreeable compromises between medicine and perfumery, in the shape of toothsome lozenges and virgin honey'⁴⁵.

It is clear from illustrations (eg that of Price and Co) that the less elaborate globe- and pear-shaped carboys, already mentioned, decorated windows (as did the upright storage jars) along with the special, elegant versions. John Chaloner provided some confirmation by his reminiscence, published in 1889, on *Fires by Focussing the Sun's Rays*. He remarked on 'old-fashioned spherical gallon bottles, one of which, filled with dilute sulphuric acid, [was] placed on a shelf exposed to direct sun's rays, actually [igniting] a piece of brown paper which was there by accident. It burst into a blaze. The shelf had several charred depressions in the wood from the same cause'⁴⁶.

The use of carboys in windows is a reminder of Charles La Wall's hypothesis about the origin of coloured show globes. He believed that they evolved from vessels used for preparing tinctures by maceration, the crude drug and the menstruum being placed inside a vessel and the whole placed

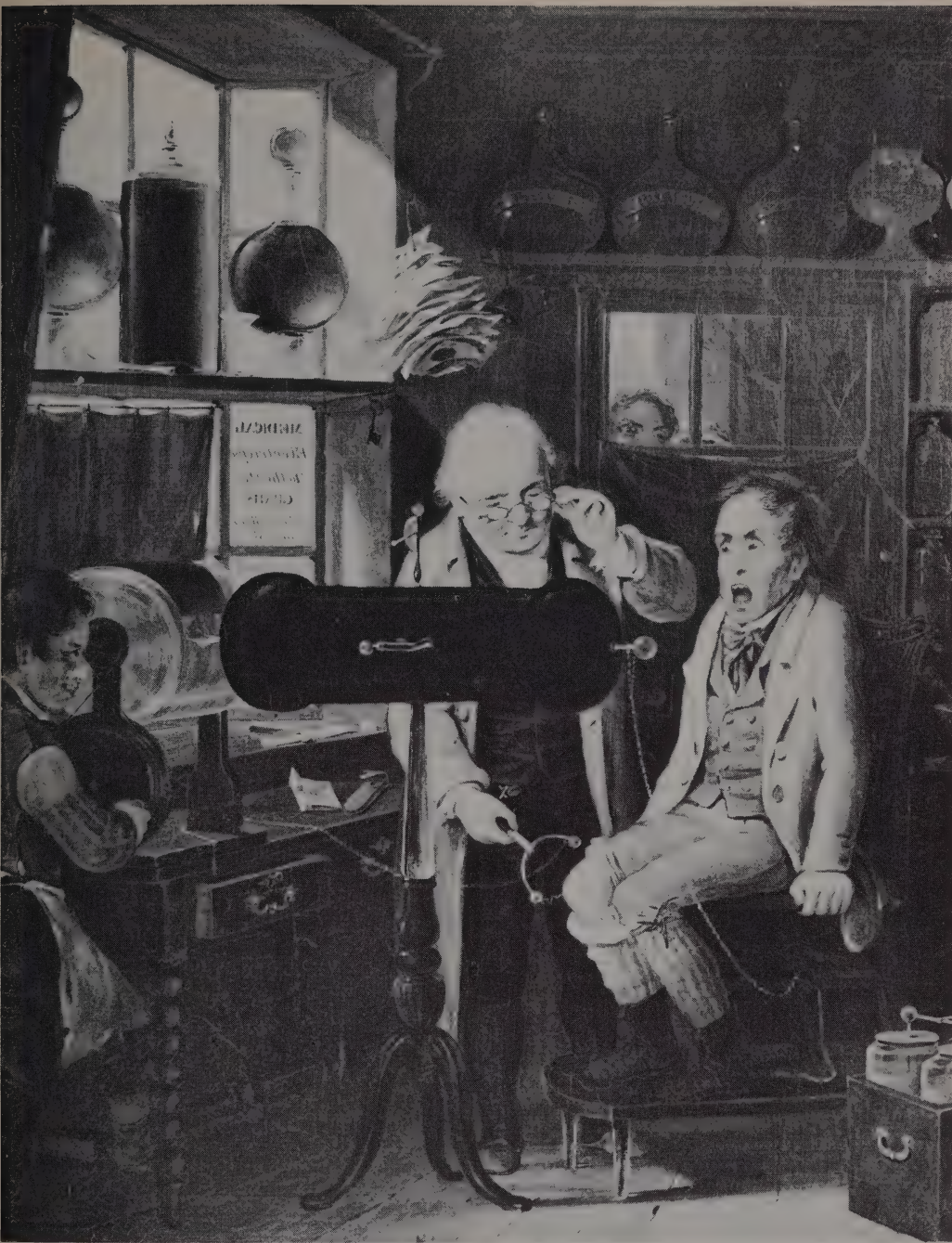


Figure 5: A painting, dated 1824 by E. Bristowe, now in the Wellcome Institute. The realistic scene, the inside of an apothecary's shop, illustrates superbly the role of show globes (note the liquid-filled stoppers). Also seen are the shelves of carboys and upright storage jars.

in the sun in the shop window⁴⁷. It is difficult to comment on this save that, although it would not be an unreasonable procedure (assuming a well-lighted window), there is no evidence that coloured liquids superseded the practice. (Brownish, liquid galenicals themselves were certainly unattractive). Also, although many carboys held tinctures, others were for medicated waters and acids etc, while many a large glass vessel could be used for maceration anywhere inside the shop or laboratory, as perhaps suggested by Gideon Harvey's 1676 comment over London treacle water:

Observe, that the apothecaries commonly (without other digestion than letting it stand three or four days in the shops in a great glass) distill this and other compound waters in a small copper still with a bucket head⁴⁸.

c. Extra-large specie jars, large show globes, and changing window display

From around the 1830s, until the end of the century, newer types of window display vessels came into vogue. One of these was the large specie jar – commonly in three sizes (heights with covers: 23, 26, and 31 inches). They were elaborately decorated, often with Arms, such as those of the

Pharmaceutical Society of Great Britain or of the Society of Apothecaries of London. By 1837, at least, wholesalers Jacobson & Sons were illustrating two, one with the Royal Arms and the other with a scrolled label for magnesia⁴⁹. The principal makers at around this time seem to have been the York Glass Works, and an undated catalogue by the company (c.1850s) listed the following designs: 'Plume of feathers, Apothecaries' Arms, Royal Arms, Pharmaceutical Arms, Phoenix, Surgeons' Arms, Physicians' Arms, Crown and Cushion, Scotch Arms, St George and Dragon, New scroll, and Scroll with lines'⁵⁰. During the next few decades the scope widened to include the Arms of Australia, New Zealand and other countries, the jars being sold by many wholesalers who often had their names applied (those of Maws and Evans being particularly common on surviving specimens)⁵¹. In the 19th century Maw fitted up many pharmacies in the antipodes.

Along with the growing popularity of the large specie jar came very large carboys of pear- and globe-shape (heights c.40 inches), the latter having long necks – hence the name swan-neck. It is no coincidence that these larger vessels came into popularity with yet another 'revolution' in shop front design. This, occurring in the 1830s to '40s,



Figure 6: Rowlandson's scene of a pharmacy interior. The illustration appeared in Smollett's *The Adventures of Roderick Random*. For an account of the caricature see Wolff, E., 'Rowlandson and his Illustrations of 18th

Century English Literature', London, 1945, pp134-135. A specie jar also appears dressing a lattice window in Dr Rock's scene of Shakespeare's apothecary in *Romeo and Juliet*. Published c.1750.

JOHN BROAD,
(FROM GODFREY & COOKE'S)
DISPENSING & FAMILY CHEMIST,



27, COLES TERRACE, BARNSBURY ROAD, ISLINGTON.

Figure 7: Trade card of John Broad, showing the triptych style window that became popular in the 1840s to '50s.

was graphically described by Charles Dickens. He noted the new epidemic of change 'first among linen-drapers and haberdashers'. The symptoms included an 'inordinate love of plate-glass, and a passion for gas-lights and gilding . . . [it then] burst out again amongst the chemists; the symptoms were the same, with the addition of a strong desire to stick the Royal Arms over the shop-door, and a great rage for mahogany, varnish and expensive floor-cloth. Then the hosiers were infected, and began to pull down their shop-fronts with frantic recklessness'⁵².

The change in outward appearance – readily seen from the advertisements of shop fitters, trade cards, and Tallis' views of London, etc⁵³ – was the introduction of large plate glass made commercially available by Chance in the 1830s. Commonly the window was divided into three sections only (Fig 7), though sometimes more, each large section calling for bold treatment, which was the reason for the decorative large specie jars and show globes.

On the other hand, the larger windows also

paved the way for general window display to promote impulse buying, so that Charles Knight, in 1843, reinforced Feldmann's remarks (p3) in stating that:

The chemists, or, as they ought more properly to be called, the druggists, have made a notable advance in shop-architecture and arrangements. Most London walkers will remember the time when the large red, and green, and yellow bottles, shedding a ghastly light on the passer-by, were the chief indications of the presence of a druggist's shop; but now the plate-glass window exhibits a most profuse array of knick-knacks, not only such as pertain to 'doctors' stuff', but lozenges, perfumery, soda-water powders, &c.; while the well-dressed shopmen or 'assistants' within – one of the most lowly-paid class of respectable persons in London – ply their avocation of semi-chemists and semi-shopmen⁵⁴.

Generally, in the 1840s, this development of displaying 'knick-knacks' seems to have been restricted to medical and pharmaceutical items.

Even fifty or so years later window displays, while becoming much more elaborate, still contained a preponderance of medicines, so that in a competition for 'winter windows', organised by the *Chemist and Druggist* in 1894, Winchester bottles of cod-liver oil were commonly featured⁵⁵. This competition reflected the fact that the value of the windows for advertising was becoming more generally accepted by chemists not only for medicines, but also for a host of side lines.

Commenting on this the *Chemist and Druggist* remarked that 'it is no doubt true that a fine window-display would actually damage some of those pharmaceutical practices which depend principally on professional support. These are, however, so few, unfortunately, that for the moment they can be disregarded. There are thousands of chemists in this country who could do more business than they do if they were to pay proper attention to their windows'⁵⁶. There is little doubt that general window displays of goods, so successfully and enthusiastically promoted by the *Chemist and Druggist* for many years, contributed to the carboys and specie jars initially being elevated high in the window, well above eye level, and ultimately to their disappearance from the windows of many establishments (cf *Figs 8 and 9*)⁵⁷. By 1930 large numbers had disappeared entirely: Alchemist, writing on their demise, stated that 'so many moderns have thought it beneath their dignity to keep the carboy in its place of importance'⁵⁸.

That shop-fitters, in their advertisements from the 1830s onwards, concentrated their attention on chemists and druggists, suggests that much of the decorative pharmaceutical glassware (and other items widely advertised at the time, such as ornate earthenware jars for tamarinds, honey, and leeches) was directed towards this expanding group⁵⁹. Nevertheless, as has already been indicated, many apothecaries continued to keep a 'shop' and to dispense medicines, and one meets the dilemma of a general medical practitioner, who, in 1871, purchased a practice in London:

To my surprise, I find myself surrounded with all the appliances of trade – coloured bottles, scents, tooth-brushes, small tooth-combs, treacles, etc. . . . I quickly expelled the coloured globes and cut down the retail to a minimum. But what am I to do in competition on all hands with more showy establishments?⁶⁰.

There was thus some market for decorative ware among general practitioners, possibly explaining the existence of specie jars blazoned with the arms of the Society of Apothecaries and of the College of Surgeons⁶¹. Also, the undoubted economic and interprofessional rivalry that ensued

between general medical practitioners and chemists may have contributed to the development of the window as an advertisement for wares, rather than as a symbol of a profession.

Pharmacy interiors

a. Shop rounds

It has already been indicated that, in some cases, windows were probably an extension of shop-shelving, at least for carboys, upright storage jars and specie jars. What did not get into the shop windows, however, were the comparatively small shop rounds – ie cylindrical containers generally 5 to 10 inches high – which were so common in the 19th century.

While creamware and earthenware pottery superseded tin-glazed ware there seems to have been increasing competition from glass. Although pottery remained in general use throughout the 19th century for storing soft preparations – confections, extracts and ointments – glass became widely used for liquid galenicals, powders, pills and growing numbers of chemical substances, etc. In 1800 James Lucas was saying:

Glass is a substance of all others best calculated for many purposes . . . in one shop the neck of each bottle, and its stopple has a corresponding number. Volatile materials are best preserved by a cap, over the stopple to screw upon the neck of the bottle⁶².

A little while later, in 1809, the *London Pharmacopoeia* stated that preparations of the acids, alkalis, earths or metals, and also salts of every kind, ought to be kept in stoppered glass bottles⁶³. The growing popularity of glass may also have been at the expense of shop drawers, a point noted by Redwood in 1848, who stated that in 'some old establishments a much larger number of drawers were used than is generally the case in those of the present day. The pharmacist now uses, with advantage, a larger number of bottles, and not so many drawers'⁶⁴.

It is not certain when the use of uniform rows of specie 'rounds' first became widespread, though it must not be forgotten that the glassware purchased by Guy's Hospital in 1725 included many flint rounds and stoppers, glasses with cut stoppers, and flint glasses for syrups and oils, etc. The earliest reference found to rounds in a wholesaler's catalogue is one published at Philadelphia in 1771 (presumably including much imported British material)⁶⁵. Listed are 'double flint rounds with ground glass stoppers' and 'double flint salt-mouthed rounds'. As already mentioned, many of the limited number of surviving 18th-century shop rounds reflect a high order of elegance (cf *Fig 51*) and it is interesting that, according to Lucas, a



Figures 8 & 9: Two illustrations of the same shop, showing the changing style at the end of the 19th century and the beginning of the 20th. It illustrates the disappearance of carboy and specie jar noted on p10. Taken from

'Chemists' Windows – An illustrated Treatise on the Art of Displaying Pharmaceutical and Allied Goods in Chemists' Shop Windows', published by the 'Chemist and Druggist', London, 1915, pp7 and 8.

Mr Dale ordered (in the late 18th century) all his bottles to be made at Warrington, suggesting that they were custom made. Lucas also gave a plan for an ideal layout of a pharmacy, where glass rounds were apparently prominent⁶⁶.

But whatever the extent of the 18th-century use of shop rounds, they were certainly regular items of commerce by the 1830s and '40s, being keenly promoted by the shop-fitting companies as well as by glass manufacturers⁶⁷. As such, innumerable minor variations in design became readily available to enhance the premises of those who wished to pay a little extra. For instance, the York Glass Company Catalogue of 1897 illustrates a range of globe, compressed globe, and cut glass stoppers for wide- and narrow-mouthed round jars. The same range applied to square shop 'rounds'⁶⁸. Labelling, too, presented a wide choice, from hand-painted to recessed labels covered with glass (see p18).

Many accounts of new premises appeared in the pharmaceutical literature during the last two decades of the 19th century, and it is clear that bottles were considered a main feature of the décor. Describing a new 'bright and artistic pharmacy' in 1889, the *Chemist and Druggist* wrote 'the fittings throughout are of American walnut, dull polished. The bottles are recess-labelled and have globe-shaped cut stoppers. The drawers have

labels to correspond and handsome nickel handles [etc]'⁶⁹.

The rows of clear glass rounds lining mahogany shelves must have often been enlivened, at least by the last few decades of the 19th century, with a miscellany of display vessels. Many of these were designed to advertise the goods of a particular manufacturer (eg Warner's pills, *Fig 63*), and are a good example of the growing influence of the pharmaceutical industry on retail pharmacy during the second half of the 19th century. This impact is also reflected in special glass show cases for medicines, in particular homoeopathic preparations. Much more elegant than the manufacturers' containers, however, were ornate show vessels, in a variety of shapes, usually associated with Continental pharmacy. It is quite probable that the majority of these were, in fact, imported from France and Germany (see *Fig 65*). They are one example of the increasing concern with display towards the end of the century.

Also relieving the rows of water-white glass rounds were similar containers, but of blue or green glass. Those in blue were most likely for syrups, being closed by fairly loose fitting plug stoppers. Syrup containers came in a particularly wide range during the late 18th and early 19th centuries – at least three styles in creamware and in earthenware – perhaps reflecting the difficulty

of handling the viscous, sticky preparations. Both glass and pottery vessels were being advertised in the 1830s⁷⁰, though, judging from the containers that survive, glass soon became the most popular.

Although blue became particularly associated with syrup bottles (no particular reason has been found for this), the colour was also used for other medicaments, notably poisons.

b. Poison bottles

The 19th-century use of special storage bottles for poisons is a long story of individual effort and general dilatoriness. Griffenhagen, in a well-illustrated article, has drawn attention to a host of ideas for poison bottles, for instance, stoppers bearing spikes, or depicting a skull and cross bones⁷¹. Griffenhagen's study concentrated on 19th-century America, and on Britain in the middle years of the 19th century when the demand for special poison containers was becoming fairly widespread. However, they had been available many years before and the earliest illustration of a distinctive bottle is possibly in A. Duncan's *Edinburgh New Dispensary* of 1803⁷². By the 1860s hexagonal fluted bottles appeared in the catalogues of W. C. Beatson, and Maw & Son⁷³. This fluted bottle was designed by John Savory and William Robert Barker who, in 1859, were granted a patent for a bottle of 'six, eight, or more sides, and fluted vertically, horizontally, or diagonally; or may be embossed, or otherwise ornamentally raised on the outer surface, leaving a blank space for placing the label with instructions &c.'⁷⁴. The intended use of these bottles was for dispensed medicines, ie medicines taken away by the patient, and it is interesting that the hexagon or pentagon shape remained in common use for dispensed medicines until well into this century.

In contrast, cylindrical ribbed bottles were more generally used for storing poisons within the shop, though, naturally enough, hexagons and pentagons were often called into shop use, especially for small quantities⁷⁵. But in addition to cylindrical bottles a host of other shapes was introduced, or at least commented on, in the pharmaceutical literature of the time. Some of the more elaborate have been noted by Griffenhagen (skull and cross bones, etc), though few of these specialised bottles remain, suggesting that they did not become generally popular or were prototypes.

One possible reason for this was alternative and cheaper methods of discriminating bottles used for poisons, such as attaching strips of sand-paper⁷⁶. More important, however, was that the use of special poison bottles did not become mandatory (and even then only if special cupboards were not used) until 1899, though provisions for

regulations had been made in the far-reaching 1868 Pharmacy Act: 'that the containers for storage should be tied over, capped, locked or otherwise secured in a manner different from that in which other articles are kept'⁷⁷.

The main reason for the thirty year delay was opposition by certain chemists and druggists, notably over the proposed measures for inspection to ensure that the regulations were enforced⁷⁸. However, by 1899 opposition to the regulations had declined – it being evident that many chemists and druggists were already using special bottles, or keeping the more dangerous substances in special 'poison cupboards'⁷⁹. Even so, there still arose a big demand for poison bottles following the 1899 regulations, and, judging from advertisements and surviving containers, the green cylindrical poison bottle grew in popularity, competing with the blue glass bottles which had probably been the most popular in the 19th century. Nevertheless, blue bottles did not disappear entirely. Nor were white or brown bottles uncommon, though they were certainly less popular, perhaps because they were far less attractive than those of blue and green glass.

Dispensary containers

Safety bottles for poisons serve to introduce the paraphernalia of dispensing and small-scale manufacturing. During most of the period being considered, dispensing of medicines was in full public view, utilising the ordered arrangement of bottles and drawers etc. For the less conscientious this had disadvantages as Feldmann highlighted. Describing what he saw in one shop he remarked:

After taking two extracts, one from a pot of gentian . . . [the apothecary] put them into a mortar, pouring upon them an *ad libitum* quantity of *aqua Menthae* . . . and then mixed it for some time, during which he conversed with his patient; he next took a powder from a drawer, threw it into the mortar and continued to pound . . . He then poured the whole into a bottle which became half full. [To this was added laudanum and the contents of several other bottles]. At length the phial was filled to the brim, to do this I saw him take several syrups from different pots, which, before he replaced he cleaned with his tongue . . . When proceeding to cork the phial [the one he took upon trial was] found to be too large, he began to compress it with his teeth; this he did with three or four corks in succession until he found one which fitted; the other corks besmeared with his saliva, were then again deposited in the drawer⁸⁰.

It was perhaps a relief to many that the trend of

shop layout during the last few decades of the century was to remove dispensing out of public view, behind screens, or to a small dispensary⁸¹. This also had the advantage that the miscellany of containers that arrived from the growing pharmaceutical industry could be stored out of public gaze, and not detract from the general appearance of a shop. Some of the manufacturers' bottles, however, were pleasing enough and, no doubt, were ultimately put into general use (cf *Fig 64*).

By the end of the century it seems that the 80 fluid ounce 'Winchester' quart was beginning to replace the upright storage jars already mentioned (cf the reference to the Winchesters of cod liver oil in window displays, p10). The origin of this 80 ounce 'quart' bottle has been a vexed problem for many years, as has the difference between Winchesters and Corbyns and pottle bottles. For instance, in a York Glass Company Catalogue of the 1850s, the following entry appears (in addition to one for 'upright shop bottles')⁸²:

	<i>fl oz</i>		<i>fl oz</i>
Pottles	180	Corbyns	50
	160		40
	120		32
	100		20
	90		18
			15
Winchesters	80		10
	60		5

The intriguing questions are why so many 'pottles' when the pottle measure was legally two quarts, and why, around 50 years later, was the 'Winchester' generally an 80 fl oz bottle, and a 'Corbyn' 40 fl oz?

Of these conundrums the origin of the 80-ounce Winchester quart has occasioned the most speculation, though on little documentary evidence⁸³. What, however, seems absolutely certain is that the word 'Winchester' refers to a bottle shape, and is not adjectival to quart. The 1897 catalogue of the York Glass Company describes two 'store jars' as being of Winchester shape⁸⁴. They are fairly slim bottles (ratio of diameter to height c.1:2.5), and have rounded shoulders. Yet the same catalogue also lists Corbyns, Winchesters and pottles under one heading, and the accompanying line illustrations indicate them all to be of the same shape. It is no wonder, therefore, that the Corbyn was ultimately dropped from one glass manufacturer's list because customers did not know a Corbyn from a Winchester⁸⁵.

The name Corbyn was apparently derived from a well-known Quaker pharmaceutical company – Corbyn's, but at the moment one can only guess

that the reason for the eponym was the quality of the bottle and, perhaps, its flat shoulders, and longish neck (cf *Fig 75*). Appellations for other distinctive bottles were generally derived from the contents, as the Cheltenham (Cheltenham salts) and the Preston (Preston salts), but this does not seem to apply to the name Winchester and, unfortunately we cannot find any reason why the name became linked with a shape⁸⁶.

Similarly our suggestions as to why 80 fluid ounces were designated 'quart' are hypothetical to say the least. The problem is compounded by the fact that Winchester quarts of 67.2 cu in (ie the fourth part of a Winchester gallon) were in use. Also in Jacobson's catalogue of 1837, Winchesters are listed under quarts, pints, half-pints (as are olive oil bottles) suggestive that the quart being sold was 2 pints or so, ie the imperial measure legal since 1824⁸⁷. On the other hand the largest Winchester is approximately half the largest pottle bottle as advertised by the York Glass Company (see above), and as a pottle was nominally two 'quarts', the largest Winchester would be one 'quart'. An alternative suggestion – though equally without documentary evidence – is that the Winchester quart is a quarter of a peck, a measure of two gallons. This is suggested by the fact that a quartern was used in some parts of Great Britain to designate the fourth part of a peck⁸⁸.

The last difficulty of the Winchester quart story is why the Winchester of 80-ounce capacity became popular at the expense of the legion of other bottles. There are a number of possible explanations, but probably convenience comes high on the list. It is certainly the largest bottle which can be readily used for lifting and pouring with one hand.

The Winchester did not, of course, replace much larger containers such as 5 gallon carboys (Exhibit 109) or other similar sized vessels (Exhibit 110) used in small-scale manufacturing. These, however, were not so much the equipment of the dispensary, being found in the small manufacturing laboratory, or storage areas such as the tincture room⁸⁹. The manufacturing laboratory, too, would have housed a range of chemical apparatus (retorts, still heads, receivers etc), and specialist apparatus, such as that for percolating drugs (cf Catalogue section 11). Comparatively few percolating columns seem to have survived, however, perhaps reflecting that they came into general use in the 1850s and '60s⁹⁰, when, as has already been indicated, the influence of manufacturing concerns was growing. The developing reliance on manufactured products led to the disappearance of the small-scale laboratory, alongside the

disappearance of such glassware as show carboys.

An interesting feature of many large storage bottles, particularly of Winchester size, is that, during this century, brown glass gradually replaced the greens and blues. That light could affect some drugs had been commented on throughout the period being considered, and the detailed story merits study. Mention will only be made here of some interesting research on the subject by Robert Hunt in 1845: 'On the changes produced on some drugs and pharmaceutical preparations by the solar rays'⁹¹. This account is of special interest because it reflects the growing concern with pharmaceutical problems following the formation of the Pharmaceutical Society of Great Britain in 1841.

'It has long been noticed', commented Hunt, 'that a peculiar change is frequently produced by the continued exposure of medicinal preparations to the influence of daylight, a change not merely in the colour of the article, but in its medicinal properties'⁹². Among many examples he quoted were: ginger, powdered green leaves of conium, digitalis, and henbane, and resins of which he said: 'the influence of light upon the resins, with the exception of guaiacum, was never pointed out

until the publication of M. Niepce's photographic researches'⁹³.

The main part of Hunt's paper was his experimental work which involved placing powdered drugs in dry glass tubes which were then hermetically sealed. Controls were placed in dark cupboards, the other tubes being exposed 'to the action of the rays of a prismatic spectrum, which was maintained in a fixed position, by means of a good heliostat'.

Arising from his results of the changes that occurred, Hunt criticised the use of blue glass containers, saying that it 'is a very common practice for druggists and manufacturers to put those pharmaceutical preparations which are liable to change by light into dark purple coloured bottles, or to cover white glass bottles with blue paper'. He recommended ordinary dark green bottle glass. His comment on wide usage of purple bottles is surprising, however, for few seem to have survived, and even the number of blacked out bottles is small (see Exhibit 14). Deep concern with the effects of glass on medicaments only came in this century, coinciding with the changes in glass technology and in pharmaceutical practices which initiated an era far removed from that described.

Appendix

Sold for the Service of Sq^r Guy's Hospitall
D^r Glifson Maydwell Aug: 24: 1725.

			S	D	L	S	D		
[PAGE 1]		2:	10 gall: wickerd bottles	8	.	.	16	.	
		4:	5 gall: wickerd bottles	4	6	.	18	.	
		27:	Large Stone bottles	2	6	3	7	6	
		26:	Large bottles w th Stop ^{rs}	2	.	2	12	.	
		75:	Green bottles large	2	.	7	10	.	
		52:	Green rounds	1	4	3	9	4	
		30:	Flint rounds & Stopers	1	6	2	5	.	
		24:	Flint wide mouths & Stop ^{rs}	1	8	2	.	.	
		31:	Flint rounds & Stop ^{rs}	1	2	1	16	2	
		16:	Flint Pills & Extracts	1	3	1	.	.	
		20:	Glafses cutt Stop ^{rs}	.	7	.	11	8	
		31:	Flint glafses for Syrups and Oyles	4	.	6	4	.	
		47:	double flint Jars with cutt Tops and bottoms	6	6	15	5	6	
		94:	Pewter covers fitted exact	1	.	4	14	.	
		5:	Largest Jars	8	.	2	.	.	
	Sep ^{tr}	1	1: Large receiver	3	.	.	3	.	
			1: Lefs receiver	.	9	.	.	9	
			2: Bodys	1	6	.	3	.	
			4: Lefs bodys	.	9	.	3	.	
			2: boltheads & Stop ^{rs}	1	6	.	3	.	
			1: Largest retort	1	9	.	1	9	
			1: Lefs retort	1	.	.	1	.	
			6: white funnells in Sizes	.	.	.	2	.	
			6: Extract glafses green	.	6	.	3	.	
			25 Large Stone Jars	2	6	3	2	6	
Octobr	2	4: Setts of Largest Crucibles	1	3	.	5	.		
		4: Large Store Pans	2	.	.	8	.		
		8: Lefs Store Pans	1	3	.	10	.		
		6: Lefs Store Pans	1	.	.	6	.		
		6: Lefs Store Pans	.	9	.	4	6		
	25	2: Retorts	1	.	.	2	.		
		2: Receivers	.	9	.	1	6		
		3: rounds & Stop ^{rs}	.	6	.	1	6		
	Novbr	4	3: rounds & Stop ^{rs}	.	6	.	1	6	
			3: rounds & Stop ^{rs}	.	9	.	2	3	
						60	14	5	
			S	D	L	S	D		
			.	.	60	14	5		
[PAGE 2]	BROUGHT OVER			
		3:	rounds & Stoppers	1	.	.	3	.	
		3:	Large rounds & Stoppers	1	6	.	4	6	
		3:	boltheads & Stoppers	1	6	.	4	6	
	X ^{br}	16	8: Glafses & Stoppers	.	7	.	4	8	
			6: Pints Flint & Stoppers	1	6	.	9	.	
								15	
				S	D	L	S	D	
				.	.	60	14	5	
				
				

Introductory and explanatory notes.

a. Labels

Labelling was either (i) permanent, (ii) semi-permanent, or (iii) temporary, although these categories may overlap. Under (i) can be placed the engraved, burnt in, embossed, etched or sand blasted lettering⁹⁴; under (ii) the labels painted on bottles by artists, and similar labelling printed or painted on paper, suitably affixed and protected by size, varnish or glass, and under (iii) labels written in ink, or printed and simply stuck on with adhesive.

Painted or similar labelling was almost permanent as it was seldom removed. It was the duty of the apprentice to touch up the labels if necessary using a fine camelhair brush and black enamel, a chore that many of them did not relish, and, unfortunately, alterations in contents were often indicated by a slip label or some other of temporary nature. The most common painted label was a ribbon design and had a genuine gold leaf background, lettering in black, and commonly a red inner and black outer border at the ends and base (in some the gold was picked out with a thin black line). This ribbon pattern was a curved band (an arc of a circle), the convex upper border generally being placed near the shoulder of the bottle. They were sometimes called 'shoulder' labels, the curve ensuring that the wording was readable from the front of the container. Sometimes the ends of the bands were elaborated: some incorporated scrolls turned back either above or below the band, while many others ended in a curved cut. A swag label was the reverse of the shoulder label, the convex lower border being placed towards the base. There were also shield patterns⁹⁵.

The type of lettering generally used was (i) Roman capitals, (ii) Grotesque capitals (without serifs), or (iii) old English blackletter. The use of Roman capitals (derived from the lettering used on the Trajan column in Rome) received an impetus from William Caslon (1692-1766), an engraver turned typesetter, who is regarded as

the father of modern printing types. His type set a new model of clear lettering, and the unaffected forms were copied by sign-writers, stone masons, and brass workers. The style became widely used on pharmacy jars, only a few bearing the Grotesque, heavy, sans serif block letters (for example, see *Fig 55*)⁹⁶. The use of old English blackletter is rare (but see No. 42).

In the catalogue entries, information on labels and inscriptions is generally only given for the more interesting or the single items. It must not be forgotten though, that labelling may not be contemporary with the bottle.

b. Closures for shop rounds

The normal closure of the narrow- or wide-mouthed shop round was a ground-in glass stopper⁹⁷. However, special rounds, such as those for oils and syrups, had their own types of closure: these included the glass cap (often with ground edges) for 'oils', the plug stopper for 'syrups' (cf *Fig 61*), and the stoppered spout of certain containers that were metal or glass capped.

The common ground-in glass stopper was of two parts – the 'plug', tapered to conform to the inside of the bottle neck and ground-in to give a good fit, and the 'thumb' piece or grip which, in a handmade stopper, was a blob of glass, squarish or oval in shape. The base of the plug sometimes shows a pontil mark indicating that the thumb piece had been hand finished, but the mark has often been ground off. (Moulded stoppers are generally distinguished by a diagonal mould mark.) Sometimes the glass stopper was also hand-cut to produce, for instance, an octagonal profile (cf examples in No. 62). The small size of the thumb piece (about 3 × 2cm) precluded elaborate decorative cutting beyond the production of bevelled edges, or cutting semi-circles into the corners, nor could moulding the stoppers by means of two half-moulds (which developed about

mid-19th century) generally increase the elegance of the small amount of glass. There were exceptions, however, where a larger quantity of glass was used (cf *Fig 50*). The York Glass Co. in their catalogue of c.1850 described their moulded stoppers as being 'superior to cut'⁹⁸.

c. Pontil marks

This mark is the remnant of a small blob of glass that remained attached to the bottle after the pontil (an iron rod to which the partly-made bottle was affixed in order to hand-finish the neck and mouth) has been detached. The glass remaining on the bottle base is sharp edged, because the pontil was simply snapped off by the application of a cold surface to the juncture of it and the hot glass. Generally it was left like this, but occasionally the edges were flamed smooth (ie, 'flamed') or sometimes the excess glass was ground away, leaving a small saucer-shaped depression in the thick glass of the base; thus finished the bottle is described as 'cut'.

When present on bottles, pontil marks are noted in the catalogue entries. The marks are some guide to dating, in that moulded bottles without pontil marks were common from the 1860s onwards.

However, some hand-made shop rounds apparently date from the early 20th century⁹⁹.

d. Imperfections

A large number of pieces of the glass in the collections are of poor quality, featuring air bells, orange-peel surface (a result of too rapid cooling), asymmetry, and badly finished necks. They are, of course, general purpose bottles and, at present, it is impossible to link them to any particular manufacturer, especially as the number of small-scale businesses was legion.

e. Tare marks

Tare marks are noted on a number of bottles, indicating the practice – widespread until recent times – of weighing all liquids, rather than measuring them.

f. Numbering and sizes

The catalogue numbers (printed in bold type) refer to single items or a group of similar containers.

All measurements are for maximum height × maximum diameter. An approximate size or size range is given for items in a large group.



Figure 10

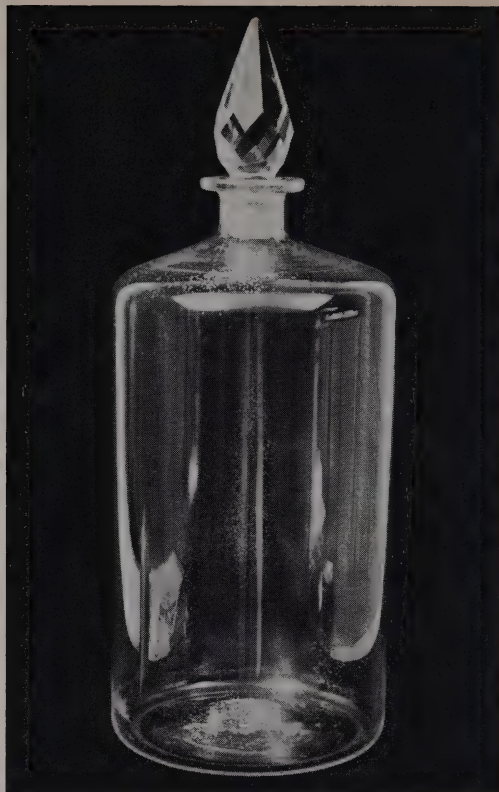


Figure 11



Figure 12

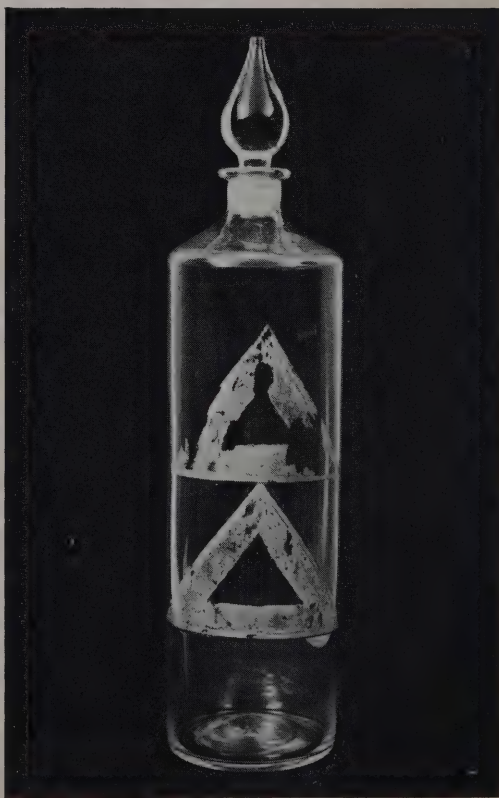


Figure 13

1. Cylindrical specie bottles and jars

All water white with pontil marks, unless otherwise stated.

a. Narrow mouthed¹⁰⁰

- 1 Labelled in black with symbol M in front, and gilded □ on back¹⁰¹. Slightly dished base and hollow, drop-shaped stopper. Possibly early 19th century, when this style of stopper seems to have been more prevalent than those in cut-glass. 37.5 × 15cm. (*Fig 10*)
- 2a-d Four unlabelled bottles with slightly dished bases, the pontil on bottle 2a having been smoothed. Each has a conical, 8 faceted, cut-glass stopper. Size range: 41.5 × 16 to 47.5 × 19cm. (*Fig 11* for 2a)
- 3 Elegantly labelled, in black ornamental capitals on gilt scrolled background, W. WINTER'S/BOTANIC/EXTRACT¹⁰². Dished base. Conical cut-glass stopper with 10 facets. 54 × 20.8cm. (*Fig 12*)
- 4 Tall, narrow bottle, decorated with symbol of two triangles in gilt with thin black edge to lower triangle¹⁰³. Hollow, drop-shaped stopper (cf 1). 41.2 × 10cm. (*Fig 13*)
- 5 Similar bottle to 4, decorated with symbol θ¹⁰⁴. Stopper broken.

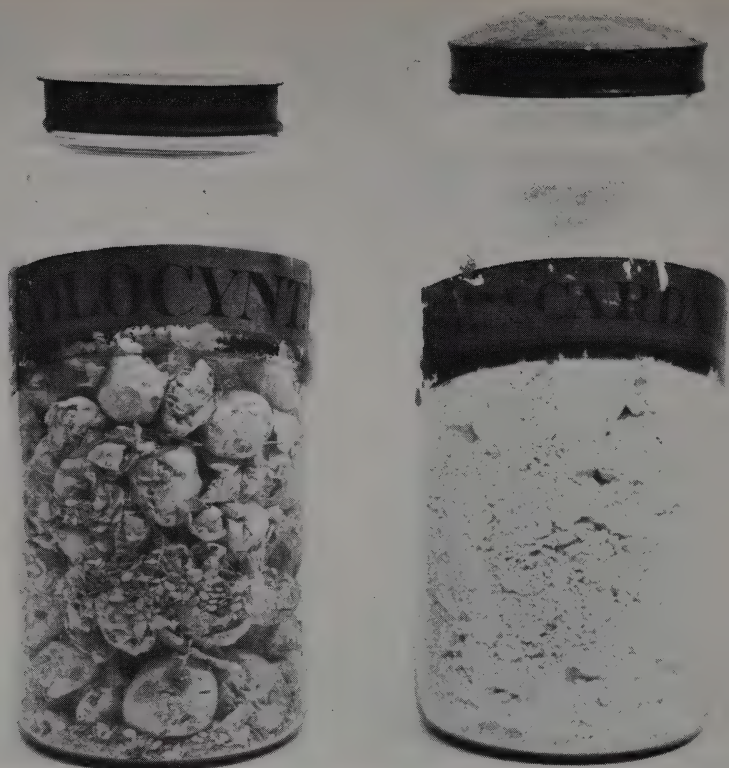


Figure 14

b. Wide mouthed

- | | |
|---|---|
| <p>6 Large, unlabelled jar with green painted tin lid. Probably first half 19th century. 45.3 × 22.5cm.</p> | <p>10a-c Three opaque blue jars with gilded, glass domed lids. Each c.40.5 × 10.2cm. (<i>Fig 16</i>)</p> |
| <p>7a-c Three jars, labelled COLOCYNTH, FL. ANTHEM, and SAPO CURDA respectively (the latter also bears a paper label inscribed PURE ORRIS POWDER). Each has a japanned metal lid and is c.34 × 11cm. (<i>Fig 14</i> for 7a)</p> | <p>11a-c Three opaque milk-white jars with japanned lids. Size range 23.2 × 12.2 – 30 × 14.8cm. (<i>Fig 17</i> for 11a)</p> |
| <p>8 Similar jar to those in 7, but slightly larger. Labelled SEM: CARDAM. Domed, japanned metal lid. 37 × 12.3cm. (<i>Fig 14</i>)</p> | |
| <p>9 Unlabelled jar filled with gilded wooden balls (each c.4cm diam), presumably intended to represent gilded pills. Green japanned lid. 47 × 20.7cm. (<i>Fig 15</i>)</p> | |

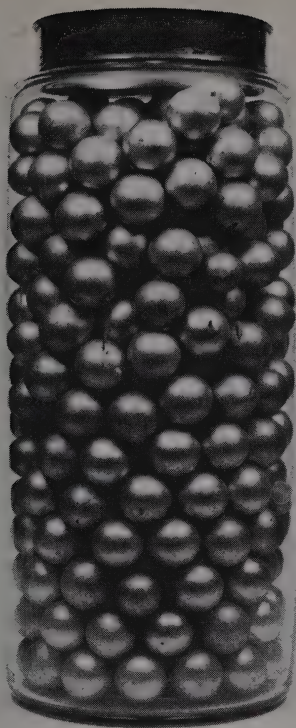


Figure 15



Figure 16



Figure 17



Figure 18

12a-e Five elegantly labelled, polychrome decorated jars. The labels and designs are as follows: (a) FOL. ROSARUM with pineapple and two fishes, (in green, red, gilt and black); (b) RAD SARSAPARIL and phoenix (in gilt, green and black); (c) FLOR SULPHUR and Hanoverian Royal Arms (in gilt, red, green and black); (d) MANNA. OPT. and crown (in gilt, red, green and black); (e) CETACEUM and lion rampant facing left (in gilt, red, green and black). (The labels are in black lettering on gilt). Each jar bears a tinned iron cap with the upper portion cut into

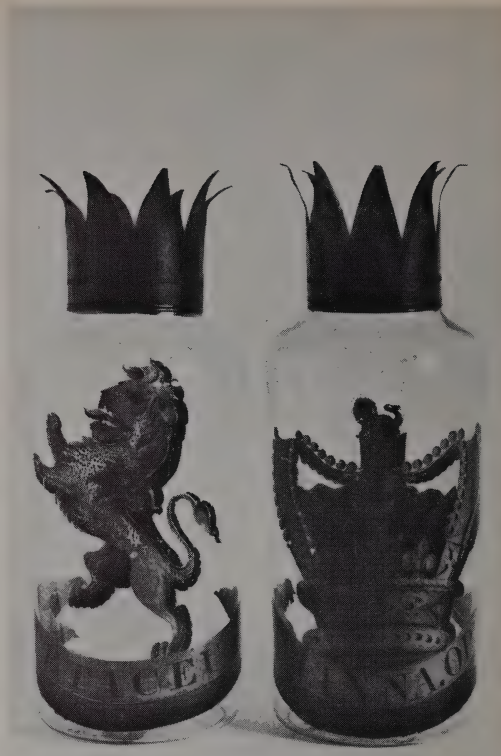


Figure 19

8 points to form a 'cannibal crown', which is painted red and edged with black, with 8 spots and a black horizontal line. Each jar has a dished base. Museum records note a missing sixth jar of this series labelled CERA ALBA and bearing a star and the inscription 'QUIS SEPERABIT MDCLXXXIII IRELAND'. Cylindrical jars with crown lids feature in the trade card of Butler & Co., Dublin, an example of which is in the Wellcome Collections, but there is no information on the provenance of these jars. Each c.38 × 15.5cm. (Figs 18 and 19)

2. Wide mouthed storage containers

a. Squat, cylindrical jars with banded mouths and pontilled bases. Possibly 18th century.

- 13 Pale, olive green, squat jar. Slightly waisted and with orange peel surface. 29.2×16.5 cm.
- 14 Greenish jar similar to 13. Slight kick. Defaced label '... PAP'. At one time the jar was evidently painted entirely in black, possibly to protect the contents from light (see p14). 28×17.5 cm. (*Fig 20* left hand jar)
- 15 Squat, short-necked, somewhat irregular-shaped jar. Blue by reflected light, dark greenish yellow by transmitted light. Numerous air bells. Tare mark scratched on shoulder: $4^{lb} 9\frac{1}{2}$. 26×19 cm. (*Fig 20* right hand jar)



Figure 20

b. Tall, cylindrical storage jars with banded necks unless otherwise stated.

This subsection (and also section 3, p30) comprises a range of bottles, generally of heavy glass, bearing such imperfections as air bells and orange-peel surfaces. Many of the bottles are irregular in shape (cf especially numbers 17 and 19) and some bear half-mould marks on the shoulders. Probably all 19th century.

I. PONTILLED BASES

These are grouped below according to colour – dark green followed by handsome amethyst glass – a reminder of disparity in elegance among pharmacies. Most of the labels are of the shoulder type, more elegant versions being shield shaped.

- 16 Green jar with unusually steep, sloping shoulders. Mould mark at shoulder, below which surface is pitted. Out-turned rim to unbanded neck. Labelled P:IRIDIS in black Roman capitals on gilt shoulder label edged in red. 35.5 × 16cm. (Fig 21)
- 17 Brownish green jar, asymmetrical at shoulder and spread at base. Labelled P. MARANT in black Roman capitals on gilt shoulder label with red edging. Over labelled with small shop paper label for SALT OF SORREL. 36 × 18cm.
- 18 Dark green, heavy jar. Tool marks on neck. Shield label: AQ:SAMB:F: in black sans serif capitals on gilt background with red edging. 39.8 × 20cm.

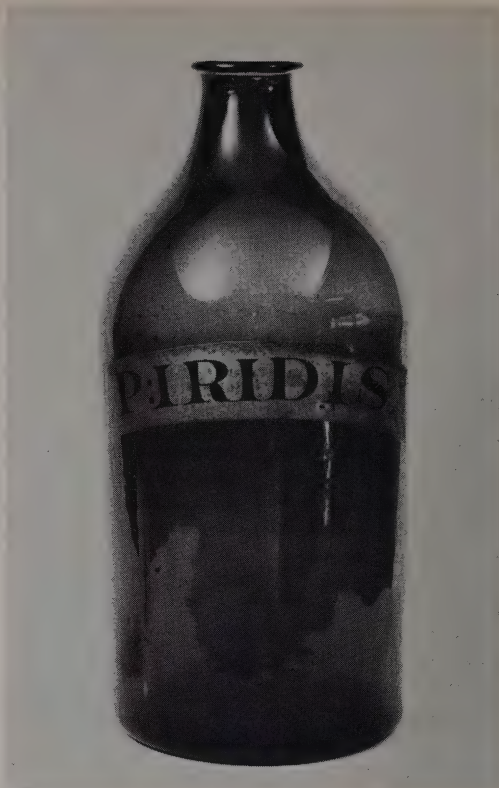


Figure 21



Figure 22



Figure 23

19a-o Fifteen green bottles, generally featuring air bells, orange-peel surface and poor finishing, especially at the mouth (cf 19a). Some are badly mis-shapen (cf 19b). A number feature tare marks, eg, '2lb 10oz' (cf 19a). Others show mould marks on body (cf 19c), and a few are over labelled with 20th-century labels (eg, 19d and e) indicating the long usage of the bottles. Size range 32.5 × 16.5 to 43 × 20cm.

20a-b Two very large dark green bottles. Item 20a has a crudely painted '3' on a white background (all over varnished). It is just possible that this was one of a series of containers for tea (though see also numbers on tincture bottles under entry 25)¹⁰⁵. c.43 × 20cm. (Fig 22 for 20a)

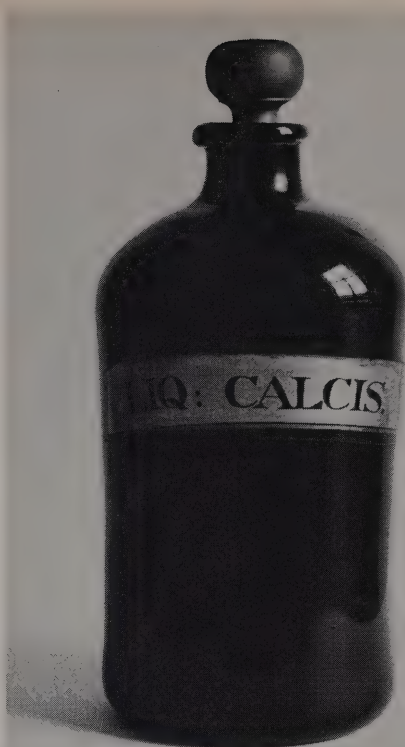


Figure 24

21a-r Eighteen amethyst bottles, well finished, without imperfections. Each has a flat dome glass stopper. The bottles are labelled in black on gilt shoulder labels. Some of the labels include PB indicating 'Pharmacopoeia Britannica'. As amethyst glass was popular towards the end of the 18th century it is possible that these bottles pre-date 1800, being relabelled after the introduction of the British Pharmacopoeia in 1864¹⁰⁶. Each c.30.5 × 18.3cm. (Fig 23 for 21b)

22 Amethyst bottle, of poorer quality than those under 21, being slightly waisted. Fitted with domed, gilded, turned white wood stopper. The bottle has a wooden stopper possibly because it was used for lime water. Labelled on one side LIQ: CALCIS and on the other AQ. CALCIS, suggesting that the bottle may have been used in a window, though the second labelling may have been done merely to brighten the bottle or to indicate a synonym. 33.5 × 17cm. (Fig 24)



Figure 25



Figure 26

II. BASES WITHOUT PONTIL MARKS

23a-c

Three green containers, the straight sides of which slope from the base outwards to bulging shoulders (23a and 23b are, in addition, asymmetrical). The moulded body (with traces of half moulding on shoulder) has an orange-peel surface and irregular base (23a) or body and base (23b and 23c). Each is labelled in black Roman capitals on gilt shield, edged with red and black: ACID: OXAL; POT:CHLOR; ZINCI OXYD respectively. Each c.12 × 11cm. (Fig 25 for 23c)

24a-k

Eleven green jars each with circular depression on base (c.7cm diam). All have paper labels outlined with red and black lines. Half-mould marks on shoulders; necks somewhat deformed. Each c.31.5 × 14.5cm.

25a-t

Twenty greenish-amber jars. The jars bear, in addition to the labels for tinctures or aromatic waters, numbers ranging from 1 to 38. Missing jars probably indicate that the set was much larger than at present. Each container is closed by cork bung which is covered by a japanned metal lid. Each c.38.7 × 17.2cm. (Fig 26 for 25t)

26a-u

Twenty-one poor quality green bottles, showing tool marks (eg, 26a and 26b), and other imperfections such as air bells. Some also have particularly heavy mould marks (eg, 26c). A number of the bottles can be grouped according to size and general appearance, (group i – d, e, f; group ii – g, h, i; and group iii – j, k, l, m, n, o) the rest being single pieces. Sizes c.30–35 × 15cm.

27a-e

Five green containers each unusually decorated with painted floral design of *Lilium sp.*, *Rosa sp.*, and *Digitalis*. Each has a shoulder label of painted black Roman capitals on a gold background with thick red and black lower edging. Labelled MIST:CRET:C; T:CALUMBAE, DEC:ALOE:C; AQ:FL:SAMB; and VIN:IPECAC: respectively. Each c.31 × 16cm. (Fig 27 for 27a)



Figure 27

3. Narrow mouthed, cylindrical storage containers

a. With pontil marks

- 28** Slightly waisted green bottle, with flat shoulder and out-turned flat rim to mouth. The bottle bears an unidentified seal inscribed THO/TEMMITT/1751. It also has a paper label: VIN ANTIM, possibly applied long after 1751. A fairly squat bottle (cf entries 13-15). 27.5 × 17.4cm. (*Fig 28*)
- 29** Squat, olive-green, poor quality bottle with large air bells. Waisted body and spreading at base. Mouth with small out-turned rim. Possibly 18th century. Shoulder has scratched tare mark: Tr 9^{lb}. 36 × 25.8cm. (*Fig 29*)
- 30a-b** Two bottles, similar to number 29, of dark green glass. Orange-peel surfaces. 26 × 18.5cm and 42 × 24.5cm.
- 31** Green jar, asymmetrical at shoulders and showing flow lines on neck and shoulders. Pontil mark, flamed smooth. Dished, irregular base. Gilt painted label VIN: TABACI: in bold Roman capitals, and with lower edge lined in red and black. Decorated with floral design of lily of the valley and other flowers. Banded mouth. 35 × 17cm. (*Fig 30*)
- 32a-c** Three bottles in heavy green glass of poor quality, showing air bells and uneven surface. 32a has a white, glass stopper, and 32b and 32c have ground necks for stoppers. Thick banding around neck. 31 × 16.5cm. (*Fig 31* for 32a)
- 33a-e** Five green bottles with slight to medium kicks and pontil marks smoothed by flaming. Poor quality glass. Each c.30 × 15cm.

- 34** Green bottle with very long neck, and moderate amount of kick. Poor quality glass. 49 × 20cm.
- 35a-b** Two green bottles with tall necks, similar to, though smaller than, 34. 35b is a very pale green colour and shows a conspicuous mould mark round top of body, and a half mould mark on shoulder. Each c.35 × 16cm.

b. Without pontil marks

- 36** Five pale green bottles, with uneven finish to each neck. Band just below opening. Each c.50 × 20cm. Another green bottle, slightly smaller (34 × 16cm), still bears the label of Bertrand Frères, distillers in Grasse, France, for 'Eau de Roses triple superieure'.

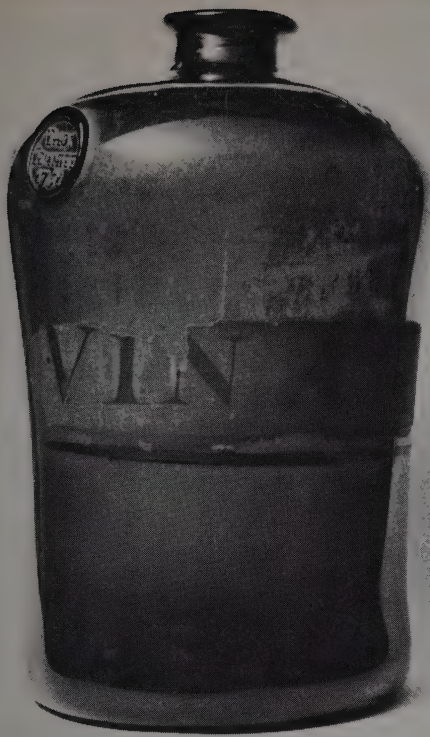


Figure 28



Figure 29



Figure 30



Figure 31



Figure 32

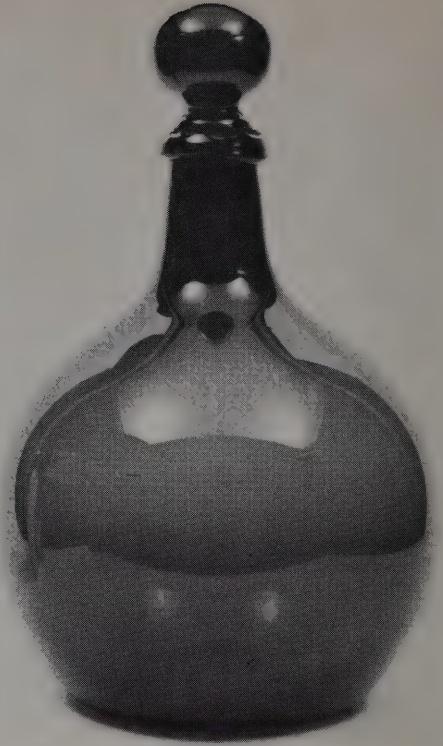


Figure 33

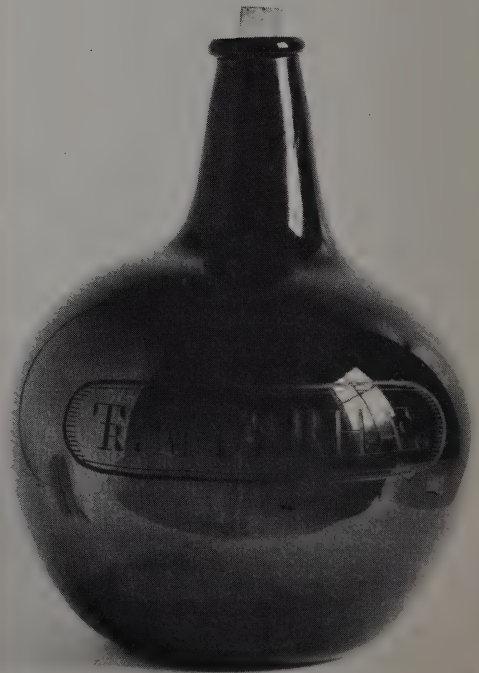


Figure 34

4. Carboys, all with pontil marks

37a-f

Six globe-shaped green carboys. Each conical neck is banded at the opening to provided strengthening and a groove for stringing. This style of neck appeared on English wine bottles around the mid-18th century, the more thickened mouth, with vestigial string rim (cf numbers 45 and 46) becoming common from the end of the century onwards. It is thus likely that this group of carboys is 18th century. For a valuable, illustrated account of wine bottles and their shape, see Hume, I. N., 'The Glass Wine Bottle in Colonial Virginia', *J. Glass Studies*, 1961, 3, 91-112. 37a, painted with design of ship and unidentified shields, was probably not intended for medical purposes. However, the pharmaceutical use of this style of carboy is indicated by 37b, bearing the torn paper label AQ.ANETH[1]. This and 37c bear tare marks – $6\frac{1}{2}$ lb and $6\frac{1}{8}$ lb respectively. Sizes 26.7×21.4 to 36×32 cm. (Fig 32 for 37b)

The following carboys (38-41) are also globe-shaped, but have tool finished mouths with smoothed bands.

38

Amethyst carboy with matching spherical glass stopper. 26.5×20.8 cm. (Fig 33)

39

Amethyst carboy similar to number 38, but of somewhat poorer finish¹⁰⁷. 32.7×26.3 cm.

40

Amber carboy with wheel-cut label panel and label TR.MYRRHÆ. Ground glass stopper. 38×28.7 cm. (Fig 34)

41

Amber carboy with shoulder label bearing scroll ends: LIN:SAPONIS. 37×13 cm.

42a-b

Two green carboys with elegant old English lettering: AQ.MENTH.PIP and LIN: CAMP:C: Each $c.27 \times 22.3$ cm. (Fig 35 for 42b)

43a-f

Six clear green carboys. Size range 25×21.4 to 39×34.5 cm.

44a-g

Seven carboys of amber to yellowish green colour each possessing a few large air bells. Rather more pome-shape (ie, apple profile) than globe-shape. All labelled in Roman capitals on shoulder labels of gilt with red edging to bottom and sides. Each $c.28 \times 22$ cm.



Figure 35



Figure 36

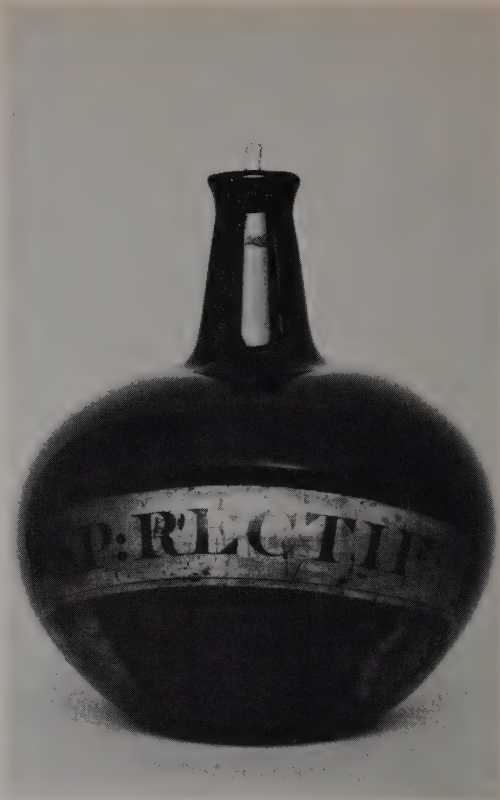


Figure 37

The following groups (45-47) have been separated from the above as 'compressed', ie, with bulging sides, though the difference between pome-shape and globe-shape is not always readily discernible.

- 45a-e** Five carboys with hand-painted floral decorations surrounding gilt shoulder label, edged at bottom and ends in red. Each has a hand-made glass stopper. Broad band moulding to mouth and vestigial string rim. ('Beer bottle style'.) Each c.29 × 22cm. (*Fig 36*)
- 46a-h** Eight carboys with mouths styled as in number 45. Three (a-c) bear tare marks: 3-1, 3 lb-11½ oz, 2¼. Each c.30 × 22cm.
- 47a-i** Nine carboys with funnel shaped mouths. Colour varies from bright green to brownish green. Three (a-c) have tare marks 6=8, 5=11, and 7'=11½ respectively. 47d is elegantly labelled with scrolled ends to label panel. 30.5 × 28 to 35.5 × 28cm. (*Fig 37 for 47d*)

- 48a-e** Five green carboys, which can be described as drop-shape. They have very short necks and banded mouths. Each c.35.5 × 24cm. (*Fig 38 for 48a*)

- 49a-c** Three drop-shaped carboys, smaller than those in group 48, and with slightly funnelled openings. Each c.29 × 22cm. (*Fig 39 for 49a*)

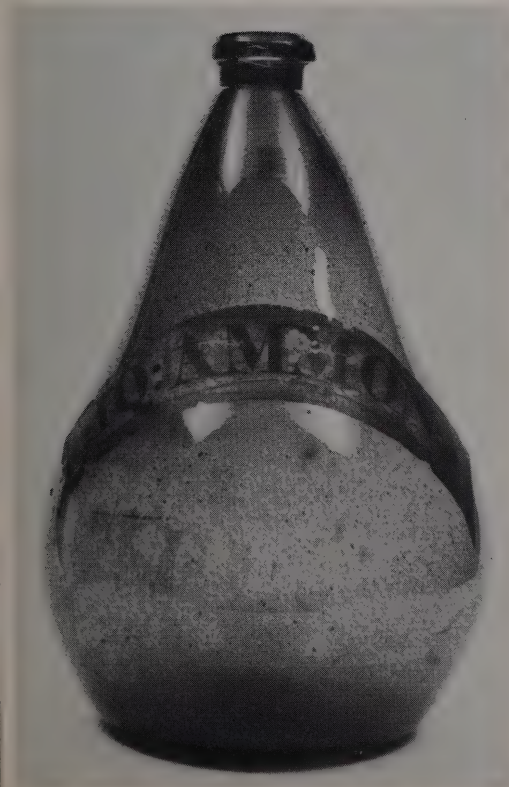


Figure 38

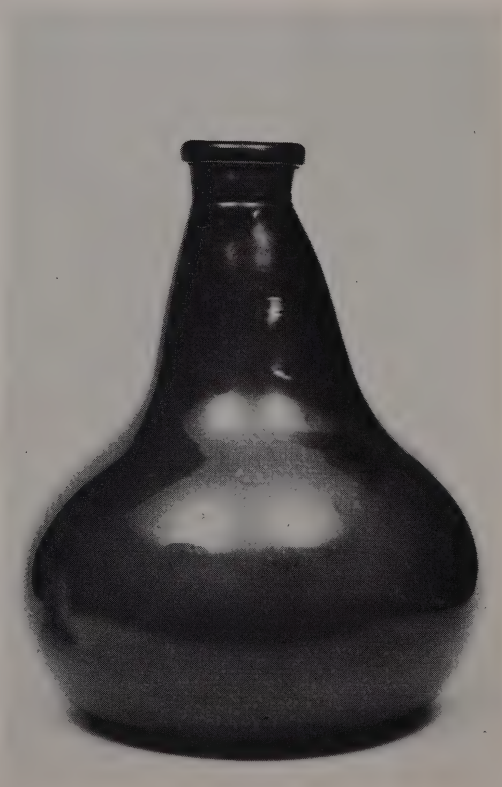


Figure 39



Figure 40

50a-i Nine light green carboys, with a more distinct neck than those in 49. Many have tare marks. Each c.30 × 23cm. (*Fig 40 for 50a*)

51a-r Eighteen water-white carboys, each with a smooth, drop-shaped, hollow stopper. Size range 27 × 20 to 38.5 × 29cm. (The size differences indicate they are not from the same set.) (*Fig 41 for 51a*)

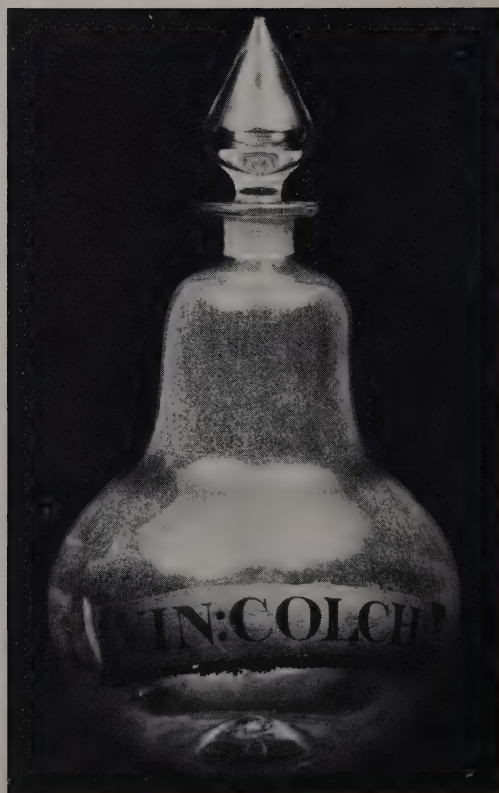


Figure 41

5. Extra large decorated specie jars and large show globes

All the jars have pontil marks and dished bases.

52-53 Two jars decorated on the inside with the arms of the Society of Apothecaries of London. Below the arms is the label panel, number **52** being inscribed RHUBARB and number **53**, PERUV BARK. The decorative work around the label is identical on each jar. Each has a slightly domed metal cap, rather than the gilded glass cap frequently found. Each c.60 × 32cm. (*Fig 42 for 52*)

54-55 Two jars decorated on the inside with the Royal Arms. Labelled beneath the Arms: MAGNESIA (**54**) and ARROW ROOT (**55**). Identical scroll work beneath panels. Each has a slightly domed, metal cap bearing a floral decoration. Each c.60 × 32.5cm. (*Fig 43 for 55*)



Figure 42

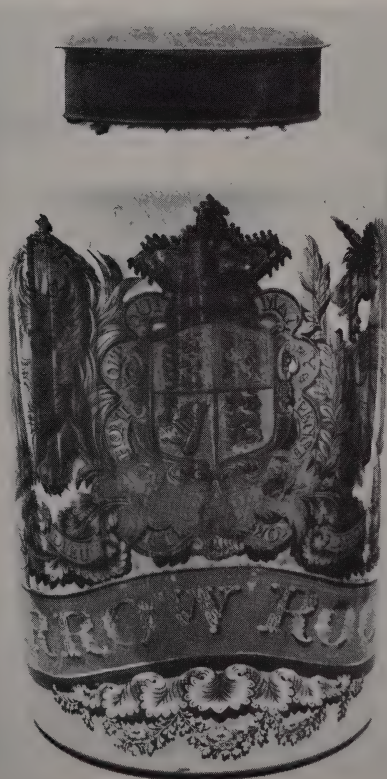


Figure 43

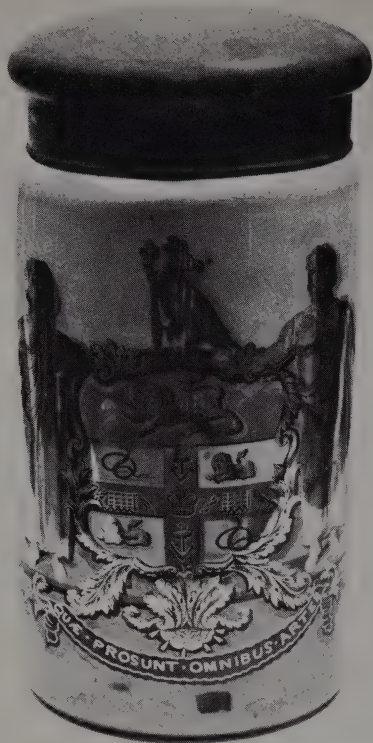


Figure 44



Figure 45



Figure 46

- 56 Jar decorated on the inside with arms of the Royal College of Surgeons of England. No drug name. The domed, metal cap has the remains of flower and leaf decoration. 47.5 × 23.6cm. (Fig 44)
- 57 Jar decorated on the inside with phoenix on pyre, arising from label panel inscribed *MAGNESIA*. Domed, cap of tinned iron, enamelled red on dome, black on side. 55 × 28cm. (Fig 45)
- 58 Jar decorated on the inside with scroll work around panel inscribed *RHUBARB*. Enamelled, domed, metal cap with remains of gold and red design. 50 × 27cm. (Fig 46)
- 59 Four swan-necked, water-white, footed show globes, each with faceted stopper. 55 × 22 and 67 × 28cm. (Fig 47)
- 60 Five swan-necked, water-white, show globes¹⁰⁸. Pontilled flat bases (ie no feet, cf number 59). Each has a cut glass, hollow stopper which can be filled with coloured liquid (see p6). These show globes are of the largest type that were available. Each c.120 × 50cm. (Fig 48)
- 61 Three carboy-shaped show 'globes' of the same shape as in section 4. Drop-shaped stoppers. This type of 'show globe' appears to have been more common than those under 59 and 60. Each 65 × 35cm.

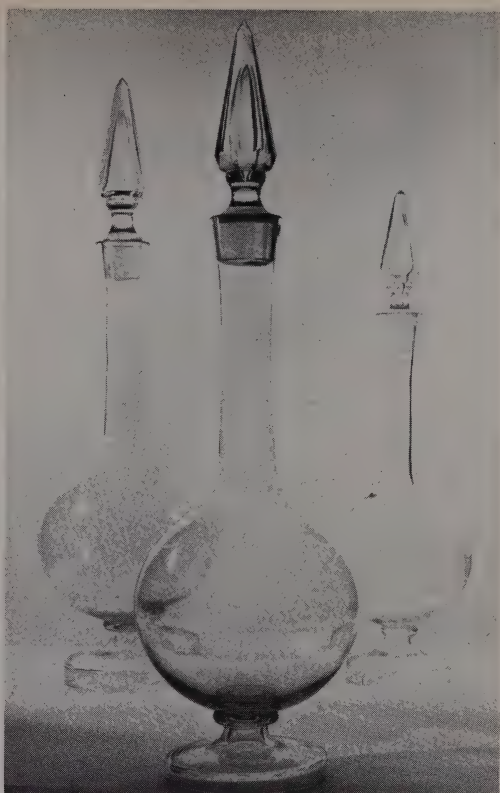


Figure 47



Figure 48

6. Shop rounds

a. Common 19th-century type

62

444 rounds with painted shoulder labels and ground-in stoppers. They are grouped as follows:

	Narrow-mouthed	Wide-mouthed
With pontil	94*	86†
Without pontil‡	81	83

*On 23, the pontil mark has been ground off (that is they have cut pontils).

†25 have cut pontils.

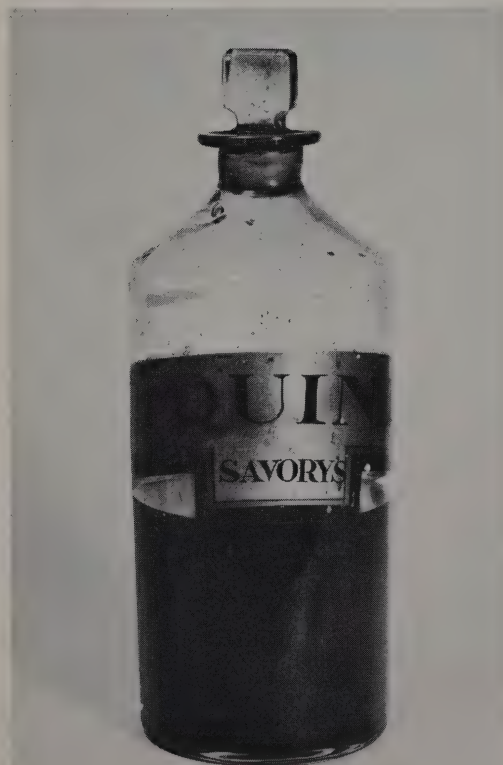
‡Many of these have the body formed in a mould, the shoulders, neck, and mouth being tool finished.

The capacities of the rounds vary from 5 to 60 fl.oz. It was, of course, important to the apothecary or pharmacist that when he had to buy in or replace a broken shop round, he could obtain containers to fit into existing shop shelving. The overall height of the containers was therefore included in many glass-sellers' lists, together with the diameter of the shop round and its capacity. The Wellcome shop rounds fall into eleven groups, appropriate for spacing between shelves of 7 inches, 9 inches and 12 inches.

Fig 49 shows an example of the common type of shop round. It was acquired from a Savory and Moore's pharmacy and dates from around 1850. The bottle has a pontil mark and is 25 × 9.5cm in size.

b. Elegant labelling and stoppering

Apart from the common shop rounds included under the section above, a variety of elegant styles (for instance, with cut glass stoppers or decorative labelling) were in use in the second half of the 19th century. The range of jars is well illustrated in Fig 50, taken from *Book of Illustrations to S. Maw, Son & Thompson's Quarterly Price-Current*, London, 1891.



STOPPERED ROUNDS AND LOZENGE JARS.



The Numbers refer to the Patterns of the Bottles and Jars unlabelled ; the Letters to the Patterns of Labels.

Many earlier bottles, however, from the 18th to early 19th century are also finely finished as shown in the following two examples.

- 63 Hand-made, heavy, water-white bottle with engraved label SP.SAL.AMMON.D. surrounded by engraved running scroll of leaf and fleur de lys design. Pontil mark. Ground-glass stopper. Late 18th or early 19th century¹⁰⁹. 26 × 12cm. (*Fig 51*)
- 64 Badly stained bottle with engraved, reverse shoulder label panel outlined by hair line and thicker outer border. Inscription for T.CINNAMOMI. Painted shoulder label on opposite side: I:GENT:C: [CONC] in black on gold background. Cut glass stopper. Probably early 19th century. 26.5 × 10.2cm. (*Fig 52*)

Examples of bottles from the second half of the 19th century to early 20th century are as follows:

- 65 A collection of bottles with black engraved lettering of the type that became common for acids. However, the permanence of the labelling made it ideal for all bottles for solutions as indicated in the example illustrated (*Fig 53*)¹¹⁰. The bottle (labelled SOL:AMM:BROM: 1 IN 3) has no pontil mark, and is 20 × 7.6 cm. (*Fig 53*)



Figure 51

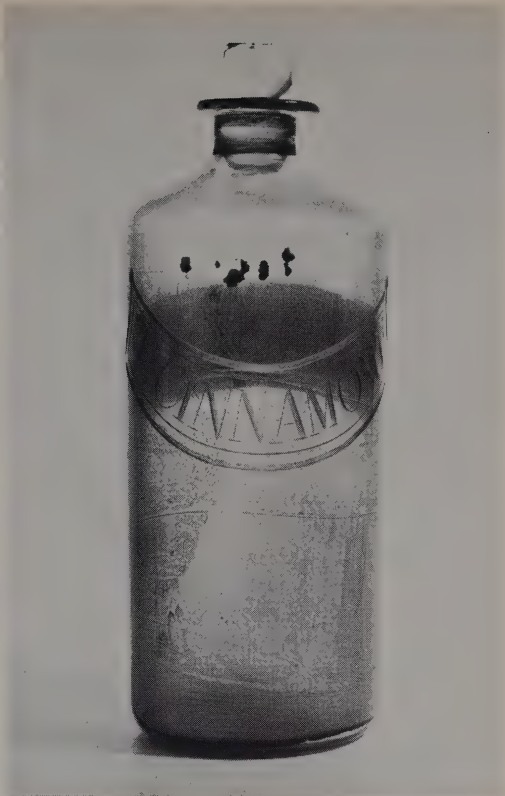


Figure 52



Figure 53



Figure 54



Figure 55

66-71 Elegant labelling is illustrated on number 66a, a bottle (one of three from a set) with no pontil mark and 17×5.8 cm in size (*Fig 54*), and on number 67 (*Fig 55*). The latter (25.7×9.8 cm) is one of a set of 23, which includes square bottles with the same decoration, and with similar cut glass stoppers. (The only other square bottles in the Wellcome Collections (68) are a set of seven containers with recessed glass fronted labels, the base being marked PAT.APP/APR.2 1889/W.T.CO.).

Other examples of elegant stoppering and glass fronted labelling are numbers 69 and 70 (*Figs 56 and 57* respectively). Number 69 (comprising 52 bottles $c.20 \times 8$ cm) inscribed, on each base, W. N. WALTON PATD. SEPT: 28TH 1862. (30 others in the group are additionally inscribed, '2ND REISSUE MAY 1867'). The Walton Company was American, but their

bottles were sold widely in Britain. The patent refers to the glass fronted label, a type also used by the York Glass Company¹¹¹. Examples of these are in group 70, cf *Fig 57*. Other glass fronted labels are on bottles marked with a w in an elongated octagon (group 71)¹¹².



Figure 56



Figure 57

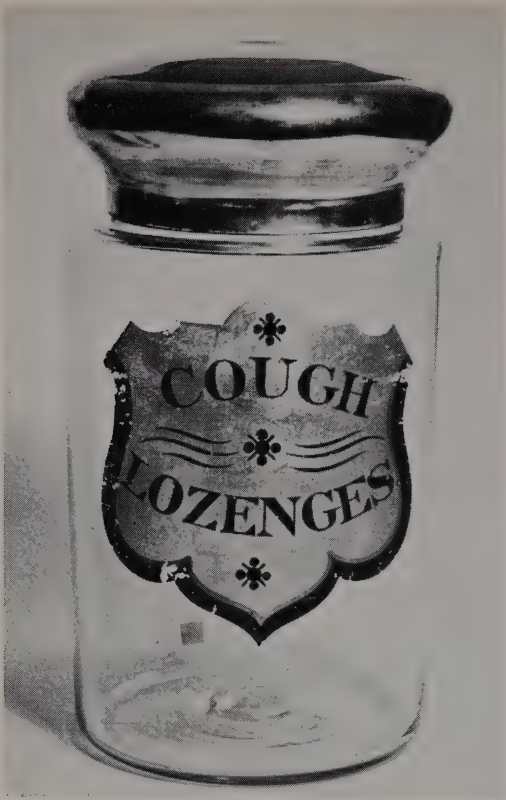


Figure 58



Figure 59

**c. Extra large shop rounds
(miniature specie jars)**

- 72a-r** 18 jars, with pontil marks and gilded glass lids. They are mostly labelled, on a gilt shield background, for lozenges and jujubes, though one is labelled for nail brushes and another for leather cases. c.25.8 × 13cm. (*Fig 58 for 72a*)
- 73** Eleven jars with pontil marks and gilded glass lids. The jars, taller than those under **72**, have scrolled, painted labels. The jars were used for lozenges. Each c.28 × 10cm.
- 74** Large jar with flat-domed glass lid. Shoulder label. 30.6 × 12.5cm.

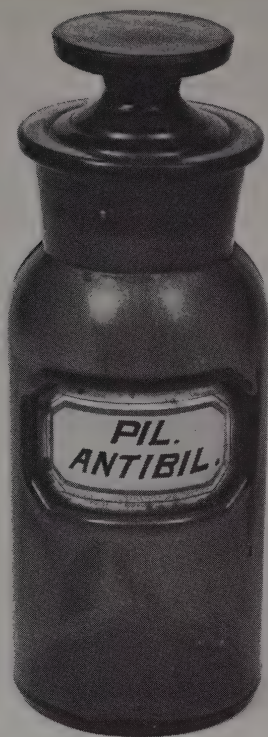


Figure 60

**d. Blue glass rounds, other than for
syrups**

- 75a-b** Two pale blue opalescent bottles with pontil marks. Labelled SP. MYRIST and TR. GUAIAAC. Matching glass stoppers. Each c.20.7 × 8.4cm. (*Fig 59 for 75a*)
- 76a-g** Seven small dark blue, clear glass rounds for pills and 'potass pellets'. All have glass fronted recessed labels and solid blue glass stoppers. Probably second half 19th century. No pontil marks. c.13.5 × 5cm. (*Fig 60 for 76a*)



e. Blue glass rounds for syrups

77a-h Eight blue glass rounds with ground-off pontil marks. Each has a loose fitting, solid, blue glass plug stopper. Hand-painted shoulder labels with black lettering and red and black border on three sides. Labels are varnished. c.22.5 × 8.5cm. (*Fig 61* for 77a and b)

78 One blue glass round, similar to 77, but with additional small groove on plug stopper. 22.5 × 8.5cm.

79a-f Six blue glass rounds with pontil marks and half-mould marks at shoulders. Each has a loose fitting, solid, blue glass plug stopper. The phototype labels¹¹¹ recessed and glass covered, consist of black, sans serif letters on white ground which is edged with carmine and gold picked out with black. c.25.5 × 9.8cm.

80a-h Eight blue glass rounds with lipped spout and ground-off pontil marks. The original ground glass caps are missing, but some have been replaced with aluminium covers which rest on the shoulders. The ornamental labels have black sans serif lettering on a gilt oval ribband surrounded by scroll-work. Some of the bottles are relabelled with painted scroll labels. Each c.20.5 × 7.8cm. (*Fig 62* for 80a)



Figure 62

7. Containers provided by manufacturers and suitable for shop display

- 81a-c** Three tall water-white, cylindrical containers each with a foot and hollow spherical glass stopper. Labelled for soluble sugar-coated liver pills and inscribed around the base W. R. WARNER & CO. PHILAD. These were acquired from a British pharmacy in 1968¹¹³, c.28.5 × 7.6cm. (*Fig 63 for 81a*)
- 82a-c** Three wide-mouthed, lozenge jars with heavy glass stoppers. Supplied by Thomas Kerfoot & Co. Ltd. Bardsley Vale, Lancashire. Each c.22 × 8.5cm. (*Fig 64*)
- 83a-b** Two greenish, wide-mouthed, lozenge jars showing half mould marks on body and neck. Each base is dished and rimmed and marked $\frac{KBLD}{T_{100}}$ and the glass stoppers have a cork strip around the periphery 1cm wide. Disc top of stopper marked $\frac{KBLtd}{T_{13}}$. These containers for 1 lb of lozenges were supplied by Meggeson & Co. Ltd., London. Each c.19.7 × 6.3cm.

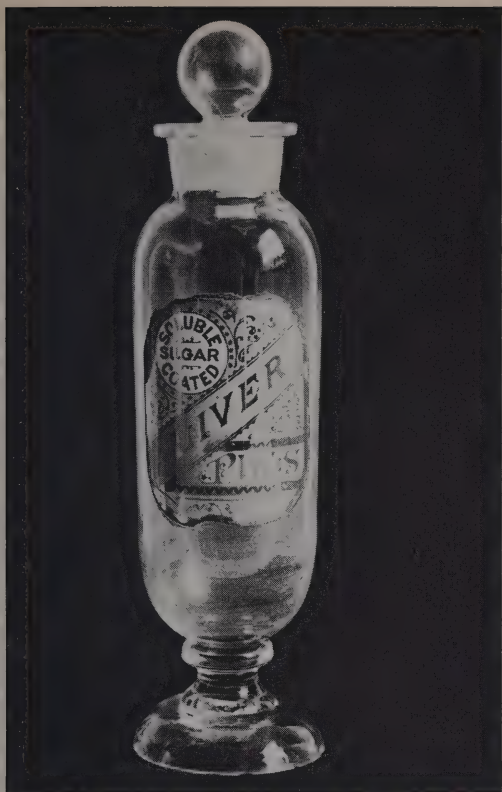


Figure 63



Figure 64

8. Miscellaneous display containers

- 84a-c** Continental, decorative wide-mouthed containers similar to those illustrated in English trade catalogues and advertisements towards the end of the 19th century¹¹⁴. Such containers may have been imported for sale to British pharmacies. (a) Tall vase-like container with foot, and a canopy lid with finial. $34 \times 12.5\text{cm}$. (Fig 65) (b) Bowl-shaped container closed by a domed lid with cut glass knob. $10 \times 11.3\text{cm}$. (c) Conical container with foot and closed by a canopy lid with solid glass hexagon knob. $30 \times 12.7\text{cm}$.
- 85** Large, straight-sided container closed by a squat, dome-shaped lid with finial. For one example of an advertisement for this style 'show jar', see May, Roberts and Co's advertising supplement (p44) in the *Chemist and Druggist* for July 30th 1892. $38 \times 28.8\text{cm}$. (Fig 66)
- 86a-d** Four squat, wide-mouthed storage jars, with flat glass lids, bearing cut glass knobs. Two have etched labels on white ground. Each c. $20 \times 10\text{cm}$.
- 87a-c** Narrow-mouthed bottles. (a) Bottle with pontil mark and ground glass stopper with seven-faceted knob. It is labelled Φ in gilt, outlined in black¹¹⁵. $19.3 \times 7.5\text{cm}$. (Fig 67). (b-c) Two with multifaceted ground glass stoppers. Both bottles have ground off pontil marks. Possibly intended for toilet waters. Each c. $19 \times 7.8\text{cm}$.



Figure 65

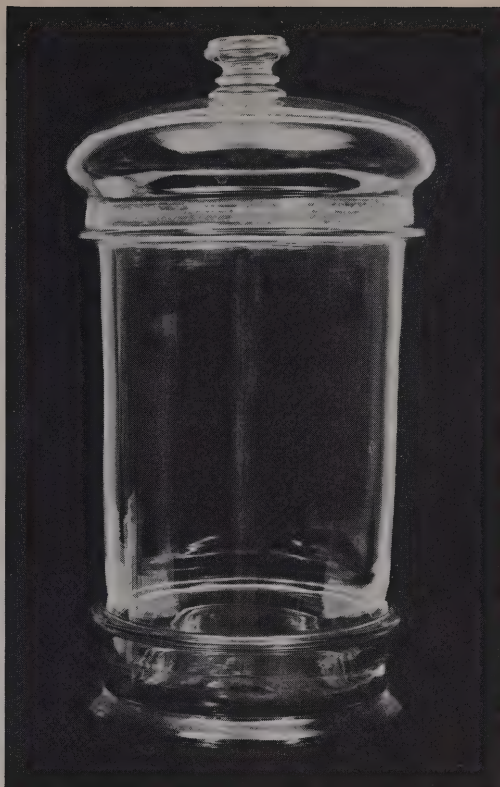


Figure 66

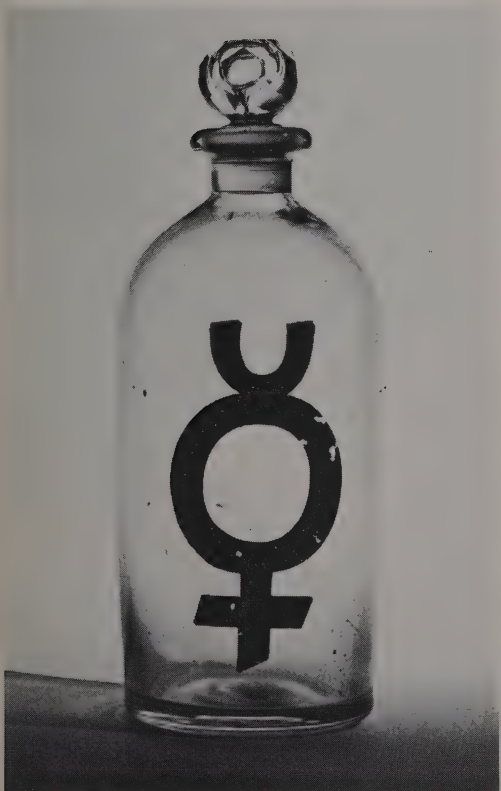


Figure 67

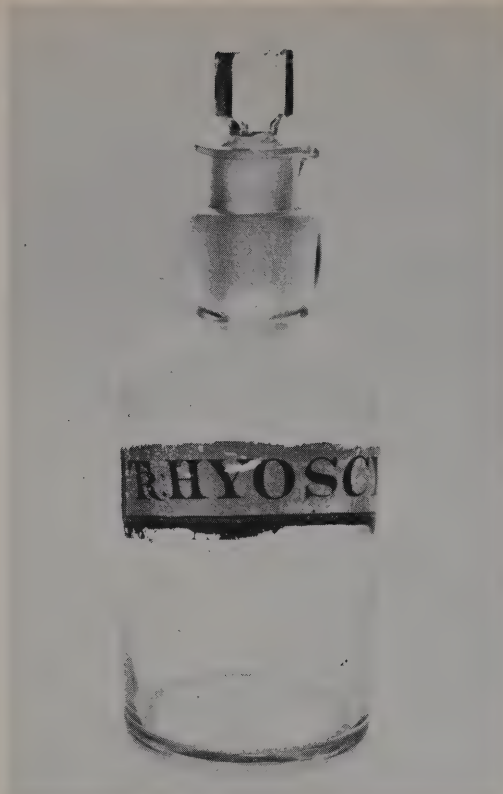


Figure 68

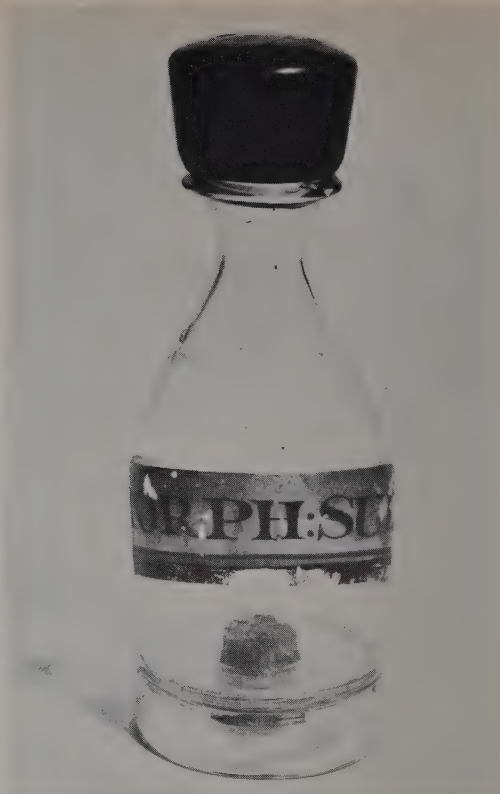


Figure 69

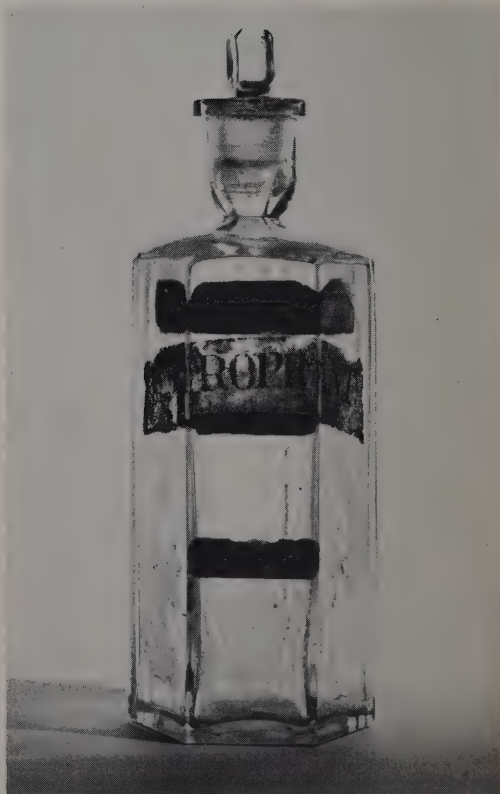


Figure 70

9. Bottles for poisons

88a-j Ten water-white bottles, each with lipped neck-piece, ground glass stopper, and pontil mark on flat base. Labels of black lettering on gilt, edged with orange and black. Labels are for poisonous or dangerous substances such as TR:HYOSCY: and OL: CROTON: The bottle was given the provisional patent no.2962 issued on December 3rd 1860 to W. Robert Barker of the Savory and Moore premises, Chapel Street, Belgrave Square. The neck of the bottle consists of a cylindrical cup with two holes, one at the bottom and one at the side, which regulate the flow of liquid from the bottle. The neck fits tightly into the body of the bottle and must be removed for filling or cleaning. A similar idea for dispensing drops from a bottle was referred to by George Dymond in *Pharm. J. & Trans.*, 1852-53, 12, 446. Four sizes: 12.5×4.5 , 16.5×6 , 20×7.3 , and 24×8.3 cm. (*Fig 68 for 88a*)

89a-l Twelve water-white bottles, each with a neck closed except for a small hole at the side. The whole is fitted with a wooden cap. Each bottle is filled through a hole in the base which is closed with a cork. As with number 88, this bottle was introduced by the Savory and Moore firm in the early 1860s¹¹⁶. Four sizes: 11×3.8 , 13.3×5 , 15.8×5.5 , 21.5×7.5 cm. (*Fig 69 for 89a*)

90 Hexagonal, water-white, narrow-mouthed bottle with vertical fluting on three sides only. It is closed with a ground glass stopper showing diagonal half-mould marks. Stopper has square thumb piece. Painted label, inscribed TR: STROPHANT: with red and black edging. Also paper 'POISON' label in white on red. The lower part of the neck is 'choked' or restricted internally so that the contents pour only slowly or in drops from the bottle. This is similar to the bottle which was the subject of patent No.215, January 24 1859 granted to John Savory and William Robert Barker of 143, New Bond Street. 17.5×6.2 cm. (*Fig 70*)

91a-b Two narrow-mouthed, vertically fluted, greenish bottles with air bells. Each has a rectangular blank panel for label. There are half-mould marks on the shoulders and neck. The upper part of the neck is narrowed and closed with a cork. The base of each bottle is embossed TOOGOOD'S PATENT¹¹⁷. Paper labels. 20×8 cm. (*Fig 71 for 91a*)

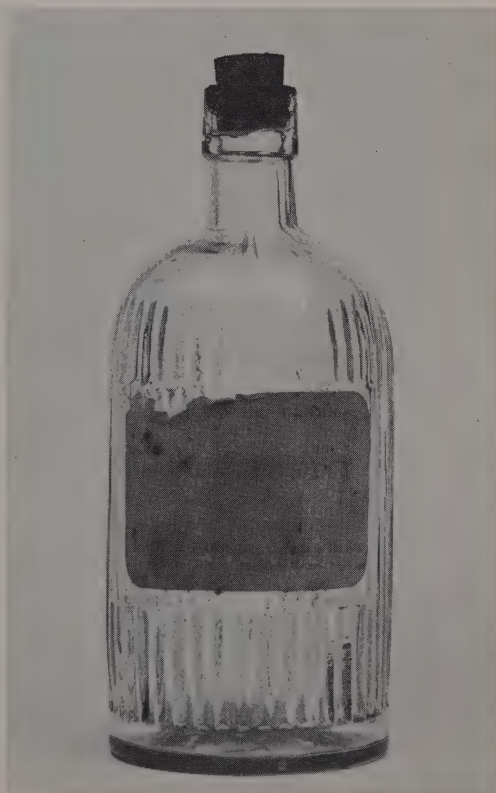


Figure 71

- 92** Horizontally fluted, narrow-mouthed, blue glass bottle with rectangular panel for label. Matching blue glass stopper with rectangular grip. Painted white labels: TINCT. BELLADONN in the centre and POISON at the bottom. (Wide-mouthed bottles of this type are also known). Similar bottles were advertised by H. Poths & Co. The earliest reference so far found to this type of bottle is in the *Chemist & Druggist*, January 14th 1888 (advertisement page xiii). 25 × 9.6cm. (Fig 72)
- 93** Green, vertically fluted bottles with rectangular recesses for label. Three equidistant mould marks on shoulders. The ground glass stoppers have square grips showing half-mould marks. The recessed glass fronted labels have black sans serif capitals on red edged with white, gilt, and black¹¹⁸. c. 19.8 × 8cm. (Fig 73)
- 94a-c** Three vertically fluted green bottles. Flat rimmed base marked with the letter w within an octagon. Half-mould mark on shoulders. Ground glass moulded stopper with square grip. Shoulder label on unfluted panel. The 19th century mark, w within an octagon, suggests Gilbertson's 11, St Andrew's Street, Holborn Circus, London (cf fn 112). 25.5 × 9.7cm.
- 95** Vertically fluted, green bottle with three equidistant mould marks on shoulders. Ground glass moulded stopper with square grip. Labelled, in unfluted octagonal panel, FIG: FORMALIN in etched sans serif capitals surrounded by an octagonal border filled in with vitrified red pigment. 25.5 × 10cm.
- 96** Green bottle with broad vertical fluting. Rectangular unfluted panel for paper label. The base is rimmed and marked with the number 20 (20 fl.oz. size). Half-mould marks on shoulder and neck. The word POISON is moulded on the glass below the unfluted rectangle. The water-white ground glass stopper has a square grip showing half-mould mark. This type of bottle was frequently supplied by wholesalers to retail pharmacists. 22.5 × 8cm.
- 97** Hexagonal, water-white, wide-mouthed bottle. Vertically fluted on four faces and half fluted on one face, the reverse face is embossed ST THOS HOSPITAL. On the base is embossed B & CO. LTD. 16 K 59. 22 × 7cm.
- 98** Brown fluted bottle with shoulder label in unfluted recess. Flat-domed stopper as in number 74. 20.5 × 8cm.



Figure 72



Figure 73



Figure 74



Figure 75



Figure 76

10. Miscellaneous storage containers

This section comprises bottles varying in size from approximately one fluid ounce to 5 gallons¹¹⁹.

- 99a-b** Two small, pear-shaped, water-white flasks with long necks and flat rims at mouths. Pontil marks. Labelled OLEUM RHODII and OL.MYRISTICAE in black capitals on a strip of paper. $6.2 \times 3.5\text{cm}$ and $7.3 \times 4\text{cm}$.
- 100** Round, squat ruby bottle with pontil mark and moderate kick. Closed with a cork which is covered with a leather cap tied on with string. Labelled BALS: HIERUSALEMI painted in black capitals on a paper strip. A second paper label states 'JERUSALEM BALSAM FROM J.B.B. BLACKHILL, ESQ. MAY 1876'. $6.3 \times 5.5\text{cm}$.
- 101** Light green, rectangular bottle, slightly tapering towards the base which has a pontil mark. On the shoulder is a round seal with the initials E.B./&H. The bottle bears a printed paper label inscribed 'METHYLATED SPIRIT', and the name and address: WALTER ASTON M.P.S./PHARMACEUTICAL & DISPENSING CHEMIST/SOUTH STREET, LANCING/AND AT WORTHING. $22.5 \times 10.5\text{cm}$. (*Fig 74*)
- 102** Round, water-white, narrow-mouthed bottle. Base dished and marked K B & CO LD/12180. Half-mould marks on shoulder and body. Shoulder is rather flattened, and is embossed: C.S. & CO LTD. The mouth is closed with a cork and sealed with a paper strip. The bottle bears a printed label of Corbyn, Stacey & Co. Ltd. and a 'spiff' label: package 2^d/nett weight $\frac{1}{2}\text{lb}$. (See p13). $15.3 \times 6\text{cm}$. (*Fig 75*)
- 103a-b** Two dark blue, wide-mouthed bottles. The bases are dished and rimmed. They show a mould mark at the top of each body and half-mould marks on the shoulders and neck. The bottles are closed with boxwood topped corks. Both have paper labels written in a form of writing that used to be known as 'drughouse style'. $c.24 \times 8\text{cm}$.
- 104a-f** Six blue, narrow-mouthed bottles. The bases are either flat and rimmed or slightly dished. Each has a mould mark at the top of the body and half-mould marks on the shoulder. Some bottles have a cork closure and others a ground glass stopper. Each has a paper label. $26 \times 10 - 14.4 \times 5.5\text{cm}$.
- 105a-g** A group of narrow-mouthed 'Winchester' bottles. The most interesting (**105a**) is inscribed, in sandblasted lettering, LEICESTER PROVIDENT DISPENSARY. The Dispensary was founded in 1862, and changed its name in 1888 (Medical Directory information) to Leicester and Leicestershire Provident Dispensary, and the bottle presumably dates prior to 1888.
- The remaining Winchesters are 20th century, ranging from 80 to 90 fl.oz. capacity. They include three less common ones made from cobalt blue glass. All three have scratched tare marks. One is also marked with the date 5 MAR 1934. $c.30 \times 12\text{cm}$. (*Fig 76* for **102a**)

106 A water-white Winchester of 160 fl.oz. capacity, which is double the normal Winchester size. It has a narrow mouth. $38.5 \times 15\text{cm}$.

107a-f Six water-white barrels with decorative moulding; each has a hole near the base for spigot, and also a flat-domed glass lid with hollow knob. Each lid fits loosely on the ground upper edge of the body. $47 \times 27\text{cm}$.

There is also an unusual green glass barrel-shaped container with short, narrow-mouthed neck, and no outlet near the base. $36 \times 24.2\text{cm}$.

108a-c Three completely cylindrical, water-white containers (ie, no shoulder and neck), but with bung or tap hole near the base. Labelled with etched, sans serif letters BINIODIDE; BORACIC; and CARBOLIC respectively. $34.8 \times 19\text{cm}$.

The collections also contain a number of 20th-century cylindrical storage containers with outlets near the base and the narrow-mouthed necks closed with bungs. The containers vary in size around a height of 40cm.

109a-t A group of twenty large green glass, 'acid-style' carboys, two having floral and foliage decorations. One is enclosed in a wicker-work handled basket. The capacities range from 5-12 gallon. Mostly late 19th to 20th century. $36 \times 28 - 63.5 \times 50\text{cm}$.

110a-b Two turquoise blue, bulbous storage containers with flared mouths. **110a** is wheel-engraved: JAMES PUCKEY/POLPERRO/1793. No information has been found on James Puckey. $36 \times 28.5\text{cm}$. (Fig 77 for 110a)

111a-c Three cylindrical (mis-shapen) dark green bottles with conical shaped necks and out-turned rims at mouths. All have pontil marks and moderate kicks. $65 \times 22 - 71.3 \times 21.7\text{cm}$. (Fig 78)

112a-e A group of five large, cylindrical, green storage containers with narrow mouths. No pontil marks. $44.5 \times 22 - 56.8 \times 29.5\text{cm}$.

113a-c Three tall, cylindrical, light green containers with sloping shoulders and short necks. Tooled, banded rim at mouth of each neck. No pontil marks, but kicks in bases. $85.2 \times 22 - 82.2 \times 22\text{cm}$.

114 Shillcock's patent leech jar patented in 1863 (see Lothian, A., 'English Leeches and Leech Jars', *Chemist & Druggist*, 1959, *Centenary Number*, 153-158). Cylindrical vessel with foot, and wire mesh lid with knob connected to centrally placed rod. The rod passes through and is fixed to two flat, white, perforated earthenware discs (one bearing the impressed mark MINTON) six cm apart. The lid rests on a rim at the mouth of the vessel. $26 \times 14.7\text{cm}$. (Fig 79)

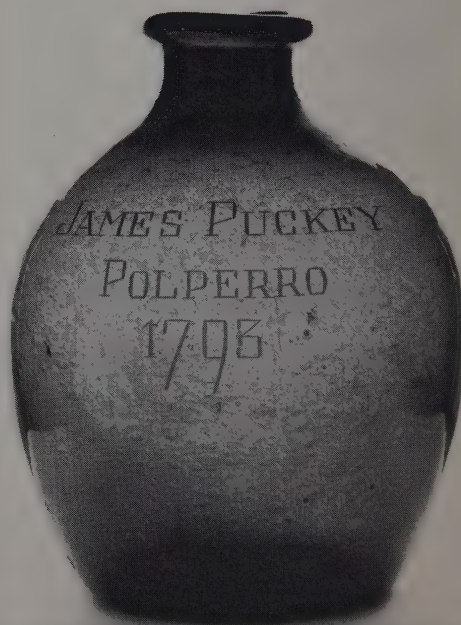


Figure 77



Figure 78



Figure 79

11. Chemical glass

Much of the activity of apothecaries and of chemists and druggists involved the preparation of chemical remedies, using such traditional chemical apparatus as retorts and receivers etc. The following is a summary of the large Wellcome Collection of chemical apparatus.

Unfortunately, information on provenance is limited, and while the bulk of the glass is 19th century, some is probably of the 18th century. Since the style, appearance, and method of manufacture of the apparatus remained constant throughout the period being considered, dating and ascertaining provenance are notoriously difficult.

a. Retorts

103 retorts of dark green, pale green, green-blue, pale blue, and water-white glass. Some have stopper holes in the bulb, others are without. The pharmaceutical use of at least one retort is noted by the scratched inscription SP.AMON FOETID. Size range (diameter of bulb \times overall length) 40×83 to 60×40 cm.

b. Still heads

55 still heads divided into four groups according to the depth of the dome, and the height of the neck. Colours are dark green, light green (some blue tinged), dark blue, and water-white. Size range: (height \times overall length) 24×54 to 9.5×22.5 cm.

c. Flasks

120 flasks of colour, dark green, pale green, blue green and water-white. Variations in shape from round to pear. Size range: (maximum diameter \times maximum height) 41×56.5 to 9×21 cm.

d. Woolf bottles

41 bottles with two or three outlets. Colours are dark green, yellow green, and blue green. Some have spigot holes at base, others are without. Many are pontilled and of fine glass. Size range 32×16 to 12×8 cm.

e. Miscellaneous

The collections include a miscellany of other glass ware from funnels to Kipp's apparatus.

Notes and references

- 1 Illustrations are reproduced in a number of sources. Cf, for instance, 'Bildkatalog zur Geschichte der Pharmazie', *Veroff. Int. Gesell. Ges. Pharm.*, 1969, vol 33. Examples of useful early sources of information on pharmaceutical equipment include: *A Medicinal Dispensatory, containing the whole body of Physick: . . . Composed by the Illustrious Renodaeus . . . Englished and Revised by Richard Tomlinson of London, Apothecary*, London, 1657, p471 *et seq*, (the Wellcome copy of the 1608 edition has a partly hand-coloured illustration of an elegant pharmacy) and *The Charitable Physitian with the Charitable Apothecary . . . by Philbert Guibert . . . translated . . . by I.W.*, London, 1639, p65 etc. Information on the 19th century is readily obtained from trade catalogues, see below.
- 2 This point has been raised in Crellin, J.K., 'Medical Ceramics: their Scope and Significance', *Trans. Eng. Cer. Circle*, 1970, 7, 191-199.
- 3 Cf Rowe, M., and Trease, G.E., 'Thomas Baskerville - Elizabethan Apothecary of Exeter', *Trans. Brit. Soc. Hist. Pharm.*, 1970, 1, 3-28.
- 4 Cf the inventory of 1593 reproduced by R. Sharpe France in 'An Elizabethan Apothecary's Inventory.' *Chem. & Drugg.*, 1959, 172, 50 of annual supplement. Also Probate Inventory (Box 104, No. 51) in Lincolnshire Archives Office, which is of the goods of Richard Beresford and is dated 1 April 1607. The Rev J.F. Williams has kindly drawn our attention to this inventory.
- 5 Pitt, R., *The Antidote: or, the Preservation of Health and Life, and the Restorative of Physick to its Sincerity and Perfection*, London, 1704, p37.
- 6 Defoe, D., *The Complete English Tradesman*, London, 1727, vol II, p63.
- 7 The inventory is one of many relating to the furnishing of the hospital around the time of its opening in 1725. Reproduced by courtesy of the Governors of Guy's Hospital.
- 8 Goddard, J., *A Discourse setting forth the Unhappy Condition of the Practice of Physick in London*, London, 1670, p40.
- 9 Merrett, C., *A Short View of the Frauds, and Abuses committed by Apothecaries: as well in relation to Patients, as Physicians*, London, 1670, p37.
- 10 Wall, C., Cameron, H.C., and Underwood, E.A., *A History of the Worshipful Society of Apothecaries of London, 1617-1815*, London, 1963, vol 1, p188. Those who were Freeman of the Society in 1774 were exempt from this.
- 11 *Report from the Select Committee on Medical Education*, 1834, part 3, p1 (italics added).
- 12 Gesner, C., *The newe Jewell of Health*, London, 1576 (translated by G. Baker), p3 of unpaginated 'George Baker to the Reader' (cf also Debus, A., *The English Paracelsians*, London, 1965, pp65-81). The term 'chemists' for preparers of chemical medicines became well established in the 17th century.
- 13 Debus, A., *The English Paracelsians*, London, 1965, p66.
- 14 One series of disputes arose from the Society of Apothecaries claiming a monopoly of distilled waters in their founding charter of 1617. But in 1638 the Distillers procured their own charter under the patronage of Sir Theodore de Mayerne. The apothecaries had to be content with the sole right of preparing the distilled waters of the London Pharmacopoeia and such others as the physicians might prescribe. Cf Wall, C., Cameron, H.C., and Underwood, E.A., *A History of the Worshipful Society of Apothecaries of London, 1617-1815*, London, 1963, vol 1, pp55-56. The activities of distillers are readily seen from *The Distillers of London*, London, 1725.
- 15 For information on Wilson and Godfrey, see Gibbs, F.W., 'George Wilson (1631-1711)', *Endeavour*, 1953, 12, 182-185; Maddison, R.E.W., 'Studies in the life of Robert Boyle, F.R.S.', *Not. Rec. Roy. Soc.*, 1954-55, 11, 159-188.
- 16 Linden, D.W., *A letter to Dr Peter Shaw, concerning a very Useful Discovery and Considerable Improvement in the Black Epileptical Powder*, London, 1746, p12. The undercutting of prices was mentioned by Campbell, R., in *The London Tradesman*, London, 1747, p62, who stated that the 'chymists are generally apothecaries, that is, they compound and sell medicines; and as they make up their own chymical ingredients are enabled to undersell the apothecary'.
- 17 In London, many druggists remained in the

- Grocers' Company after the apothecaries separated from the grocers in 1617. Cf Roberts, R.S., 'The early history of the import of drugs into Britain', in Poynter, F.N.L., (ed.) *The Evolution of Pharmacy in Britain*, London, 1965, pp165-185.
- 18 *The Family Physician*, London, 1676, p136.
 - 19 In 1747 R. Campbell (*op. cit.*, fn16, p62) remarked that the druggist's business was to 'buy up [in] large quantities, all manner of uncompoundd drugs, both foreign and domestic; these he sells to the apothecary who compounds them; yet generally speaking he compounds drugs for sale in his own shop, like the apothecary'. See also the pamphlets: [Chandler, J.,] *Frauds Detected: or Considerations offered to the Public shewing the Necessity of Some effectual Provision against Deceits, Differences, and Incertainties in Drugs*, London, 1748; *The Apothecary Display'd, or an Answer to the Apothecary's Pamphlet called Frauds detected in Drugs*, London, 1748; and *An Enquiry into the Designs of the late petition presented to Parliament by the Company of Apothecaries*, London, 1748.
 - 20 There was even the comment in 1825 that, owing to the serious results that could occur from dispensing errors, 'it is regretted by some that the practice of pharmacy is not now in the hands of apothecaries who are its legitimate professors, but is chiefly practised by retail chemists'. (*Encyclopaedia Londinensis*, London, 1825, vol 20, p54.)
 - 21 Good, J.M., for example, in his *The History of Medicine*, London, 1796, makes many comments on chemists and druggists dispensing medicines (p148 *et seq.*). However, in 1790 The Royal College of Physicians of London had only 45 fellows and 88 licentiates (see Clark, G., *A History of the Royal College of Physicians of London*, London, 1966, vol 2, p738).
 - 22 The question of the economic viability of manufacturing chemists has been raised in Crellin, J.K., 'British Pharmacy and Industrial Chemistry, 17th to 19th Centuries', to be published.
 - 23 Operative chemists were so designated in London directories. For instance, the 1842 *Post Office London Directory*, under the main heading Chemists and Druggists.
 - 24 Feldmann, J.E., *Quacks and Quackery Unmasked*, London, 1842, pp12-15.
 - 25 Culverwell, R.J., *The Life of Dr Culverwell, written by himself*, London, nd, p40. The contrast between the apothecary's private shop and the chemist's public premises is also seen in a letter written in 1837, by the royal physician James Clarke to the chemist and druggist Peter Squire, when the latter became the first chemist, as distinct from an apothecary, to hold the Royal Warrant. This is reproduced in Crellin, J.K., 'The Growth of Professionalism in nineteenth-century British Pharmacy', *Med. Hist.*, 1967, XI, 215-227. In mentioning a 'licensed tenant' Culverwell was referring to membership of the Pharmaceutical Society, though in 1850 this was entirely optional.
 - 26 Mortimer, J., *The Universal Director*, London, 1763, p18.
 - 27 For reviews of the subject see Griffenhagen, G., 'The Show Globe - A Symbol of Pharmacy', *J. Amer. Pharm. Assoc. (Pract. Ed.)*, 1958, 19, 233-235; Dillemann, G., 'Les emblèmes corporatifs des pharmaciens français. II. Les boccas de couleur des pharmaciens', *Prod. et Prob. Pharm.*, 1965, 20, 203-210.
 - 28 Davis, D., *A History of Shopping*, London, 1966, p191 (italics added). Cowen, D., *The New Jersey Pharmaceutical Association 1870-1970*, Trenton, 1970, p118, has reproduced an interesting advertisement for the sale of various items, from the *New Jersey Gazette*, January 13th, 1779 which lists window glass of different sizes, viz., 'Best London and Bristol Crown, 13 by 11, 14 by 12, 15 by 21, 15 by 13, 16 by 10, 20 by 14, 18 by 13, 15 by 18, 21 by 18, 21½ by 18½, 25½ by 19½, 20 by 16, and 17 by 13'.
 - 29 Wellcome Institute of the History of Medicine ms. 74265.
 - 30 For a recent reference to this question see Matthews, L.G., 'Apothecaries' Pill Tiles', *Trans. Eng. Cer. Circle*, 1970, 7, 200-209.
 - 31 Pitt, R., *The Antidote*, London, 1704, p105.
 - 32 For some examples of Boyle's Head, see Maddison, R.E.W., *The Life of the Honourable Robert Boyle*, London, 1969, pp222-223.
 - 33 See, for instance, Larwood, L., and Hotton, J.C., *The History of Sign-boards*, London, 1869.
 - 34 Anon., *The Apothecary display'd or, an answer to the Apothecary's Pamphlet, called Frauds detected in Drugs*, London, 1748, p16.
 - 35 *The Art of Curing Diseases by Expectation*, London, 1689, p145.
 - 36 See *Lichtenberg's Visits to England as described in his Letters and Diaries*, translated and annotated by M. I. Mare and W. H. Quarrell, Oxford, 1938, pp63-64. (Also noted in Griffenhagen, *op. cit.* (fn 27)). The full quotation is: 'The street [Cheapside and Fleetstreet] looks as though it were illuminated for some festivity: the apothecaries and druggists display glasses filled with gay-coloured spirits, in which Dieterich's lackey could bathe; they suffuse many a wide space with a purple, yellow, verdigris-green, or azure light'.
 - 37 Quoted in Griffenhagen *op. cit.* (fn27) Götting also said that 'behind each such glass is an Argand's Lamp, which will burn all evening. On each glass is also painted a large chemical symbol which catches the eye of one passing and announces to him that here chemical preparations and medicines are sold'.
 - 38 Griffenhagen *op. cit.* (fn27).
 - 39 *Ibid.* Also in Davis, *op. cit.* (fn28), p195.

- 40 *Chem. & Drugg.*, 1900, **56**, 12-13.
- 41 Gray, S.F., *A Supplement to the Pharmacopoeia and Treatise on Pharmacology*, London, 1821, p323.
- 42 Pharmaceutical Society of Great Britain ms. 342, f 9.
- 43 *A Catalogue of Medical Earthenware, Glass, Pharmaceutical Implements, Utensils Boxes . . . Also of a variety of Show Jars, Glass Cases, Counter Desks . . . Required in the Fitting up of Druggists Shops*, London, 1837, fig 7.
The earliest illustration depicting rows of carboys is probably the Dutch painting, *The Apothecary's Shop* by Willem van Mieris (1662-1747). See *Connoisseur*, 1954, **133**, 128.
- 44 What also appear to be show globes, though they have no feet and could just as well be carboys, feature in the caricature *The Devonshire Method to Restore a Lost Member*. Publ. 14th April 1784 by [name erased] Great Russell St Covent Garden (see George, D., *Catalogue of Political and Personal Satires*, London, 1938, vol VI, p98). Since the counter is directly in front of the shelves of containers, it is not clear whether the containers are in fact dressing a window.
- 45 *The Life and Adventures of Martin Chuzzlewit* (published 1843), quoted from Chapman and Hall illustrated edition, chapter V, p104.
- 46 *Chem. & Drugg.*, 1889, **35**, 673. Other accidents arose from the cracking of badly annealed vessels, with consequent flooding by the contents.
- 47 La Wall, C.H., *Four Thousand Years of Pharmacy*, Philadelphia, 1927, pp488-489. For an instance of the undoubted use of the carboys for tincture making, see 'A distinguished Midlands pharmacy', *Chem. & Drugg.*, 1945, **143**, 659-661.
- 48 *Op. cit.*, (fn18), p141.
- 49 *Op. cit.*, (fn 43), plate 1. A year later, in *A Catalogue of the Most Modern and Approved Surgical and Veterinary Instruments, Trusses, Pharmaceutical Implements, . . . Manufactured and sold by Zaccheus Hunter, Mason & Co.*, London, 1st January 1838, three specie jars are listed (p85), labelled RASS: CORN: CERV, MAGNESIA, and TURKEY RHUBARB respectively.
- 50 *The York Glass Company . . . Chemists and Druggists supplied with Stoppered Rounds, Specie Jars, Pear-shaped Globes, Flint Jars and Carboys . . .*, York, nd, p12.
- 51 It is not clear whether the York items were decorated in York, the company's smaller specie jars, at least, being labelled 'in gold and enamel, by Superior London Artists' (*ibid.*, p13). One of these was perhaps Albert J. Harris Medical Labeller and Ornamental Writer on Glass in Burnished Gold, 1 Little Warner Street, Clerkenwell, EC who advertised in the *Chemist and Druggist* (eg on 15th November 1862). He also stated 'show jars labelled in the most superior manner, to any design, cheaper than any other house in England'.
For some data on labelling practice at the time in Edinburgh see Drummond, C.G., 'Pharmacy and Medicine in Victorian Edinburgh', *Pharm. J.*, 1968, **220**, 178-182.
- 52 Dickens, C., *Sketches by Boz* (published 1833-36), quoted from Oxford University Press edition, 1966, pp182-183.
- 53 Advertisements are in the *Chemist and Druggist* (commenced in 1859). A convenient source for Tallis is the reprint: *John Tallis's London Street Views 1838-1840*, Nattali and Maurice, London, 1969.
- 54 Knight, C. (ed.), *London*, London, 1843, vol 5, p391.
- 55 *Chem. & Drugg.*, 1894, **45**, 774-780.
- 56 *Ibid.*, pp782-3.
- 57 The activity of the *Chemist and Druggist* is well seen in *Chemists' Windows, An Illustrated Treatise on the Art of Displaying Pharmaceutical and Allied Goods in Chemists' Shop Windows*, published at the offices of *The Chemist and Druggist*, London, 1915. Particularly good examples of carboy displays are shown in the photographs of Brighton pharmacies published in the *Chem. & Drugg.*, 1905, **67**, 188-189.
- 58 *The Retail Chemist*, 1931, January, 12-15.
- 59 See, too, catalogues of pharmaceutical ware, where the sale of pharmaceutical equipment to chemists and druggists was made explicit at the expense of apothecaries (for refs. to catalogues see footnotes 43, 49, 50).
- 60 *The Lancet.*, 1871, **2**, 37.
- 61 A thumbnail-sketch of a shop fascia board reading 'Kernot Surgeon', appears in the *Chem. & Drugg.*, 1905, **66**, 22, though the shop was then being operated as a chemist and druggist only.
- 62 Lucas, J., *A Candid Inquiry into the Education, Qualifications and Office of a Surgeon-Apothecary*, London, 1800, p137.
- 63 Powell, R., *The Pharmacopoeia of the Royal College of Physicians of London, MDCCCIX translated into English with notes*, London, 1815 (3rd ed.) p9.
- 64 Mohr, F., and Redwood, T., *Practical Pharmacy*, London, 1848, p15.
- 65 John Day & Co, Druggists and Chemists, *Catalogue of Drugs, Chymical and Galenical Preparations, Shop Furniture, Patent Medicines, and Surgeons Instruments*, Philadelphia, 1771, p28.
- 66 Lucas, J., *op. cit.* (fn62), facing p144.
- 67 Cf the catalogues noted in footnotes 43, 49 and 50.
- 68 See *The York Glass Company (Limited)*

Manufacturers of Flint & Bottle Glass. Chemists and Druggists supplied with stoppered Rounds, Specie Jars, Pear-Shaped Globes, Black Flint Jars & Carboys . . . Fishergate, York, 1897, p33.

- 69 *Chem. & Drugg.*, 1889, **34**, 583-4.
- 70 Blue syrup bottles appear in Apsley Pellatt's loose-leaf price list, bearing the manuscript date November 1838 (in library Pharmaceutical Society of Great Britain) though not in Pellatt & Co's earlier, shorter list, dated January, 1830.
- 71 Griffenhagen, G., 'Poison bottles and safety closures', *J. Am. Pharm. Ass.*, 1961, *NSI*, 563-566. Cf also Munsey, C., *The Illustrated Guide to Bottles*, New York, 1970, pp161-164. Other American pharmacy ware is also featured in this well-illustrated book.
- 72 *The Edinburgh New Dispensatory*, Edinburgh, 1803, pl II, fig 13.
- 73 'Savory and Moore's Patent Glass Bottles, for Poisons, Liniments &c.', are featured in *Rotherham Glass Works, Established 1751, List of Flint and Green Glass Manufactured by W. C. Beatson, for the use of Chemists and Druggists*, np, 1862 (p11).
- 74 British Patent no. 215 for 1859.
- 75 Examples of this occur in the Wellcome Collection.
- 76 For an early reference to the use of sandpaper see Gilbert Thonger's British Patent no. 2866, dated 16th November 1863, entitled 'Labels for bottles or jars containing poisons'. The use of sandpaper was also advocated after the introduction of the 1899 regulations (see below). Cf, for instance, *Chem. & Drugg.*, 1899, **54**, 413.
- 77 For a convenient summary of the Act see Matthews, L.G., *History of Pharmacy in Britain*, London and Edinburgh, 1962, pp135-136.
- 78 A helpful summary of the situation was set out in the *Chem & Drugg.*, 1898, **53**, 934-936. For some interesting general background, see Cowen, D.L., 'Liberty, Laissez-faire and Licensure in Nineteenth Century Britain', *Bull. Hist. Med.*, 1969, **63**, 30-40.
- 79 Cf *Chem. & Drugg.*, 1899, **54**, 16, 56-57.
- 80 *Op. cit.*, (fn24), pp20-21. Another account of compressing corks by biting occurs in a description of a 'sixpenny surgery', entitled 'A Bottle of Medicine', *Guy's Hospital Gazette*, 1909, **23**, 132.
- 81 Redwood, *op. cit.*, (fn64), p16, remarked in 1848 that the dispensing counter should be arranged so that those dispensing may not be exposed to unnecessary interruptions, while a few years later (see *Pharm. J. & Trans.*, 1865-66, **7** (2nd ser.), 397-401) dispensing counters were available with a screen 'to protect the dispenser from intrusion without rendering him invisible'.
- 82 *Op. cit.*, (fn50), p29.
- 83 For a stimulating hypothesis see Boorman, W.H., 'The Winchester Quart' *Pharm. J.*, 1963, **191**, 59-60. Boorman believes (reference and private communication) that the term Winchester arose from the supply of bottles for the Winchester Infirmary, and that the 'quart' was derived from the milk trader's use of an '8-quart gallon' (New Barn Gallon).
- 84 *Op. cit.*, (fn68), p13.
- 85 See Boorman *op. cit.* (fn83). The same company, Beatson & Clark, also changed the name to Winchester, indicating the close similarity of the bottles by at least the 1930s. Cf *Pharm. J.*, 1963, **191**, 98.
- 86 It may be that the York Glass Company first supplied such bottles for Winchester hospital (cf fn83), but it has to be remembered that such appellations as 'Winchester bottle' were used as early as 1819 (see Chamberlain, W., *Tyrocinium Medicum*, London, 1819, (2nd ed.), p144).
- 87 *Op. cit.* (fn43), p61.
- 88 Cf Chambers' *Encyclopedia* (1868). *The English Dialect Dictionary* also shows that in the North Country (1783) the word 'quarter' was a measure containing a quarter of a peck and that in Shropshire (1818) 'the quarter bushel was a hoop, or peck, the fourth part of which was a quarter'. It is also of interest that chemical quart retorts often held around two gallons (cf *Phil. Trans.*, 1767, **57**, 521).
- 89 The contents of one tincture room are listed in *Catalogue of the Whole of the Extensive and Valuable Stock in Trade of Drugs, Chemical preparations in the premises of Messrs Balkwell & Sons . . . which will be sold by Auction by Paddon & Son*, Plymouth, nd [1836].
- 90 Cf, for instance, two papers by an English pioneer, Henry Deane, 'On the process of displacement as applied to pharmaceutical preparations', *Pharm. J. & Trans.*, 1841-42, **1**, 61-68, and his general account in *Pharm. J. & Trans.*, 1863-64, **5** (2nd ser.), 544-548.
- 91 Hunt, R., 'On the changes produced in some drugs and pharmaceutical preparations by the solar rays', *Pharm. J. & Trans.*, 1845-46, **5**, 171-174.
- 92 *Ibid.*, p171.
- 93 *Ibid.*, p172.
- 94 The etching process – using hydrogen fluoride – came into popularity in the first half of the 19th century. Cf Parkes, S., (*A Chemical Catechism*, London, 1807 (2nd ed.), pp232-33) who noted that it had become a 'fashionable employment for young ladies to etch landscapes and other drawings on glass by means of fluoric acid'. Its use for pharmacy bottles seems to date more from the second half of the century when it was also used for making glass tablets for chemists' windows. Sandblasting also came into common use in the second half of the century, whereby stencil lettering

- could be done on the larger bottles, especially those for hospital or dispensary use (cf no. 105a).
- 95 An interesting illustration of labels (including the shield version) occurs in S. Maw and Son's *A Catalogue of Surgeons Instruments and Appliances* . . . , London, 1866 (unpaginated insert). The advertisement states that 'as these labels are not printed by hand, any pattern or design can be executed to order'.
 - 96 Grotesque lettering became more common towards the end of the 19th century, and in this century.
 - 97 Although a shop round stopper can be removed by finger(s) and thumb, it was, in practice, removed by grasping it with the third and fourth fingers of the left hand, while the thumb, first and second fingers held a measure etc; the bottle was held in the right hand.
 - 98 *Op. cit.* (fn50), p18.
 - 99 Examples of these are in the Wellcome Collections.
 - 100 Narrow-mouthed bottles and jars were generally used for liquids, wide-mouthed jars (sometimes called salt-mouths) for powders and solid medicaments. However, there are many exceptions to this, wide-mouthed containers being frequently used for liquids.
 - 101 The M may possibly have been intended to represent muriatic acid, but the possibility of a decoration cannot be ruled out (cf also numbers 4 and 5 Götting's comments noted in fn37).
 - 102 No information has been found on this preparation, though it reflects 19th-century interest in botanical medicines.
 - 103 This symbol seems to have been applied for decoration only.
 - 104 This symbol seems to have been applied for decoration only.
 - 105 Tea was sold widely by 19th-century chemists and druggists. Cf, for instance, the delightful illustration of a country chemist and druggist in *Chem. & Drugg.*, 1894, 45, 136.
 - 106 The use of amethyst colour was widespread in the late 18th century (cf also amethyst carboys numbers 38-9).
 - 107 The Wellcome Collections have no examples of blue glass carboys, these being generally less common than the amethyst variety.
 - 108 Just who introduced the tall swan-necked show vessel is uncertain, though in 1899 (*Chem. & Drugg.*, 55, 678) it was attributed to James Wilson, who was at that time London representative of the York Glass Company. Towards the end of the century, tall 'variegated' show vessels had been introduced, though none of these is in the Wellcome Collections.
 - 109 Recorded rounds of the 18th century are rare. A probable group – with elaborate painted decoration of scrolling to the ends of each label panel (which is surmounted by a cherub with outstretched wings) were illustrated in *Chem. & Drugg.*, 1894, 45, 863. A photograph of the collection is in the Wellcome Institute Records.
 - 110 Vitrified ('burnt in') labels were widely advertised in the '80s and '90s by H. Poths & Co of London, the lettering often being on a white or pink ground (for an example see *Chem. & Drugg.*, 1885, 27, p124 of advertising pages).
 - 111 The Wellcome bottles were acquired from an English pharmacy in 1962. Cf also advertisement, with many testimonials, which appeared in the *Chemist and Druggist* for 1882. The patent is for US patent no. 36,542, dated 23rd September 1862, and reissue no. 2,630, dated 28th May 1867. Similar glass-fronted labels to Walton's were introduced by the York Glass Company, being referred to as 'patent phototype labels', the lettering being reproduced photographically. For further illustrations of York items see 'Objects in Glass', *Chem. & Drugg.*, 1956, 166, 120-121.
 - 112 The w within an elongated octagon seems to have been used by a number of companies. Gilbertson & Son had added it to their mark by mid-1894 (cf advertisement in *Chem. & Drugg.*, 1894, 45, 36 (advertisement page)), while Wood Bros. were using it in this century. In 1885 the proprietors of the 'w' brand dispensing bottles pointed out that 'inferior bottles had been shipped with a mark similar to theirs' (*Chem. & Drugg.*, 1885, (advertising supplement for 15th August, p124).
 - 113 Warners were an American company but their products and these special jars were widely distributed in Britain by F. Newbery and Sons. The success of Warners owed much to sugar coated pills, for which the jars were used (cf Sonnedecker, G., and Griffenhagen, G., 'A History of Sugar Coated Pills and Tablets', *J. Am. Pharm. Assn.*, (*Pract. Ed.*), 1957, 18, 486-488). The jars were widely advertised in the pharmaceutical press in the '80s and '90s. In 1894 the *Chemist and Druggist* (44, 159) wrote that 'the show bottles [as in 81] have been made quite familiar in this country, just as in the United States a whole pharmacy is occasionally to be met with entirely furnished with this design of bottle'.
 - 114 Cf S. Maw, Son and Thompson's *Book of Illustrations to Quarterly Price-Current*, London, 1891, p272.
 - 115 This is a symbol for mercury, but it was probably added for decoration only, not to designate contents.
 - 116 The first report of this bottle was probably that in the *Chemist and Druggist*, 1860, 1, 291, which stated: 'we are indebted to [Messrs Savory of Bond Street] for a most ingenious bottle for dispensing powders, especially those potent ones requiring to

be used in minute quantities. This bottle, which is manufactured by Mr Toogood of Mount Street, is very peculiar'.

Toogoods (see also no. 91) were prominent as suppliers of bottles. For an interesting account see *Chem. & Drugg.*, 1886, **28**, 554. That journal's remark that the three floors above the show room contain stocks, bottles of all 'sizes and qualities, from the heavy Winchester to the small and elegantly shaped perfumery bottle, being the leading articles', indicates that the Winchester was well established by that date (cf p13)

117 No registered Toogood patent has been located.

118 Other bottles with glass fronted labels in the Collections are marked and noted in footnotes 111 and 112.

119 Manufacturers' containers of size range 16 fl.oz. to 32 fl.oz. are not included except for the rare Corbyn bottle (no. 102). The growing influence of manufacturers in providing ready-made galenical and other preparations can be assessed easily from advertisement pages of the *Chemist and Druggist*, particularly from the 1870s onwards. One well-known name active at the time, Evans of London and Liverpool, also dealt in glassware, including specie jars (see p8) and oddities such as show crystals (cf *Chem. & Drugg.*, 1888, **32**, 118 (advertisement page)).

The Wellcome collection of containers for dispensed medicines is dealt with by the authors in *Med. Hist.*, 1970, **14**, 132-153.

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